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ASSIGNMENT BOOKLET 7A

Mathematics 4
Module 7: Days 1–10

Home Instructor's and Student's Comments:

STUDENT FILE NUMBER
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Apply Module Label Here

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FOR SCHOOL USE ONLY

Assigned Teacher:

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Home Instructor: Keep this sheet when it is returned to you as a record of the student's progress.

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- Has your work been reread to be sure the spelling and details are correct?
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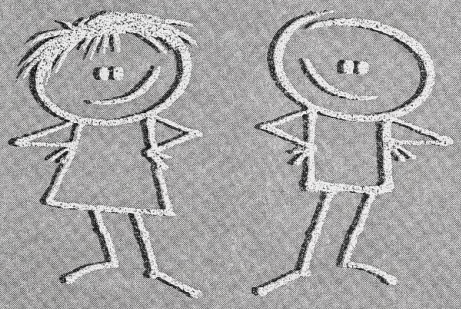
Mathematics 4

Module 7
Measurement



Assignment Booklet 7A

Learning Technologies Branch

Alberta LEARNING

FOR TEACHER'S USE ONLY

Summary

	Total Possible Marks	Your Mark
Day 1	32	
Day 2	39	
Day 3	15	
Day 4	36	
Day 5	32	
Day 6	31	
Day 7	36	
Day 8	15	
Day 9	(1) 42	
	(2) 10	
Day 10	(1) 19	
	(2) 10	
	317	

Teacher's Comments

This document is intended for	
Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
General Public	
Other	

Mathematics 4
Module 7: Measurement
Assignment Booklet 7A
Learning Technologies Branch
ISBN 0-7741-1833-4

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ASSIGNMENT BOOKLET 7A
MATHEMATICS 4 – MODULE 7: MEASUREMENT

Notes to the Home Instructor

Learning Tasks

The nine mathematics modules and the accompanying Assignment Booklets have been developed so that students become involved in a variety of learning tasks that help them develop mathematical skills, learn how to communicate mathematically, and become mathematical problem solvers.

When completing the assignments, students should work carefully and neatly. Students should do the activities in the Assignment Booklets **independently**. This will ensure that the teacher acquires a more accurate picture of the student's ability and understanding.

If the student is having difficulties, he or she should review the appropriate sections in the Student Module Booklet. The home instructor can assist the student by reviewing these sections with the student and encouraging him or her to explain, describe, or demonstrate (using manipulatives, drawings, and so on) his or her understanding of a particular concept or idea.

Assessment and Evaluation

A broad range of assessment tools will be used to gather information for the purpose of evaluating the student's knowledge and understanding of curriculum skills and concepts. It is important that the teacher learns how the student thinks about mathematics as well as what concepts and skills the student has mastered. Assignment Booklet questions, journal entries, performance assessments, observations by the home instructor, and student self-evaluation pages may all be used. As well, the teacher may also use a final test.

In order to give the student and home instructor feedback on the student's current level of achievement throughout the school year, the student's teacher will provide written comments and assign a grade at the end of each module. The mark for each module will be determined primarily by how well the student completes the assignments in the Assignment Booklets. However, other broad-based assessment techniques (journal entries, performance assessments, and so on) may also be used.

32

Day 1: Exploring Length, Width, Height, and Distance

5

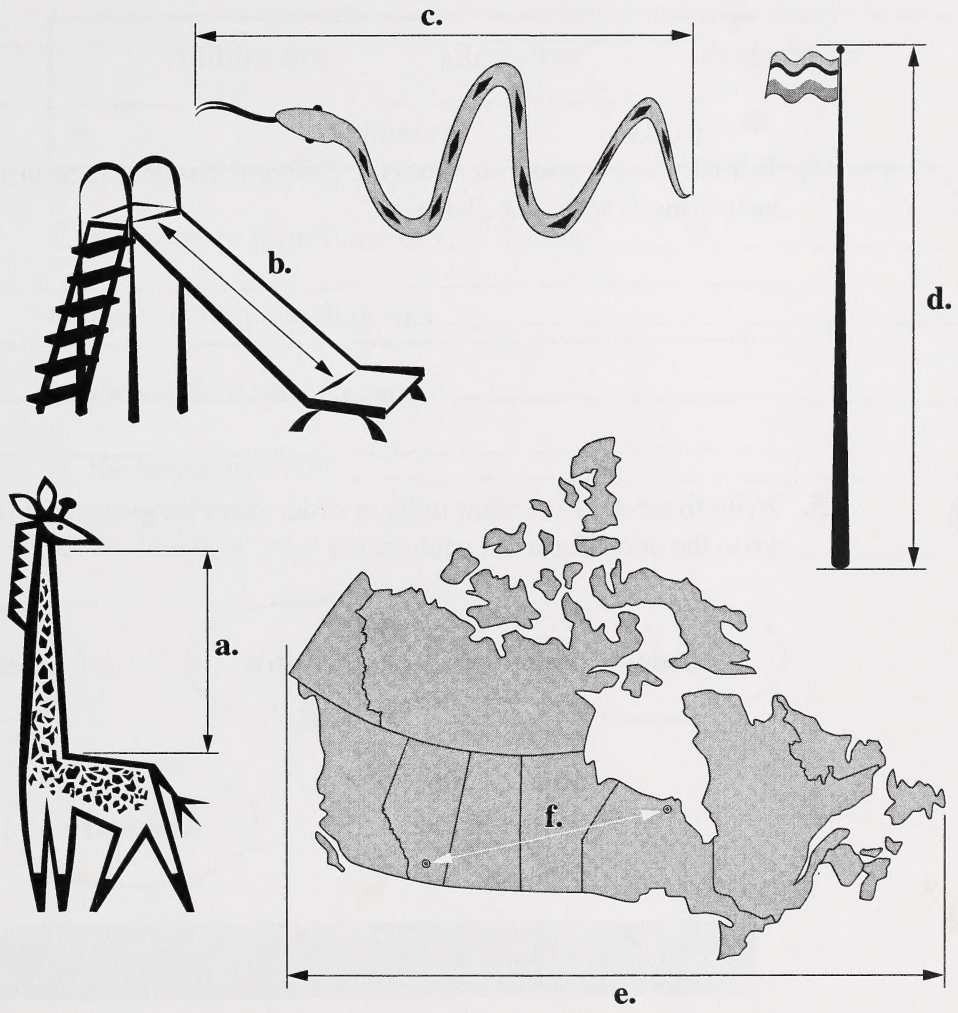
1. Journal Entry

Describe a time when you needed to measure the length, height, or width of something in or near your home.

Tell about the following things:

- why you needed to measure the object
- what measuring tool you used
- what unit of measurement you used
- if the measurement was exact or estimated

(6) **2.** Look at the following pictures. In the spaces at the bottom of the page, write **length**, **distance**, **width**, or **height** to tell what is being measured.



a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

(4) **3.** List **four** measuring tools that can be used to measure length, height, or distance.

- _____
- _____
- _____
- _____

(2) **4.** Tell why it is a good idea to have different kinds of measuring tools for measuring length and distance.

_____

_____

_____

_____

(10) **5.** Write these measurement units in order from **largest** to **smallest**. Then write the short form for each.

metre **kilometre** **centimetre**

millimetre **decimetre**

Measurement	Short Form
Largest: _____	_____
_____	_____
_____	_____
_____	_____
Smallest: _____	_____

(5)

6. Which unit of measurement would you use to measure the following things? Use the units listed in the box.

millimetre	kilometre	centimetre
decimetre	metre	

a. the distance from Edmonton to Toronto _____

b. the length of a curling rink _____

c. the width of your fingernail _____

d. the height of a cliff _____

e. the length of your eraser _____

39

Day 2: Using Centimetres, Millimetres, and Decimetres

(2)

1. Write the shortened form of each measurement. An example is given.

Example: 25 metres = 25 m

a. 9 millimetres = _____

b. 4 decimetres = _____

c. 29 centimetres = _____

d. 8 kilometres = _____

(3)

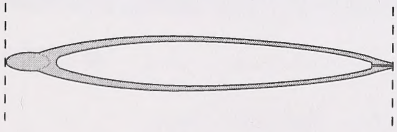
2. Measure each object and write its length in **centimetres**.

a.

Length: _____

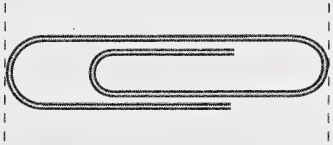
b.

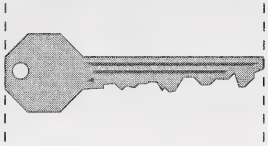
Length: _____

c. 

Length: _____

(3) **3.** Measure each object and write its length in **millimetres**.

a.  Length: _____

b.  Length: _____

c. Length: _____

(4) **4.** Draw a line for each measurement. Use your ruler and be as exact as possible.

a. 7 cm

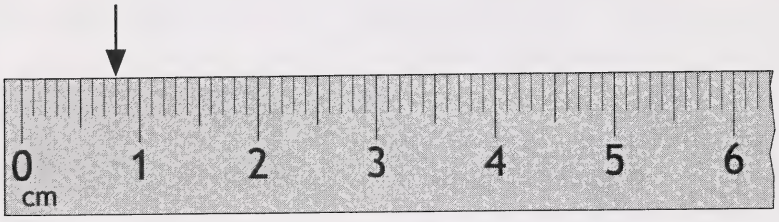
b. 1 dm

c. 45 mm

d. 62 mm

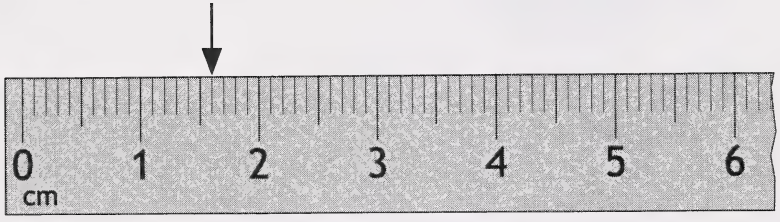
(3) **5.** Tell how many **millimetres** the arrow is pointing to on each ruler.

a.



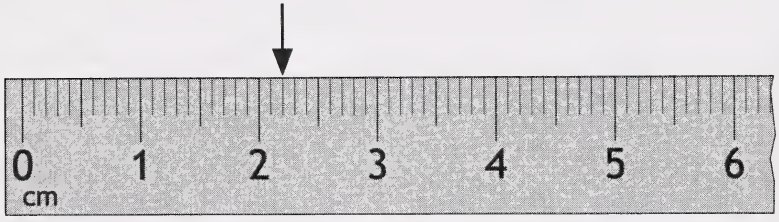
_____ mm

b.



_____ mm

c.



_____ mm

(2) **6.** Explain why it would **not** be a good idea to measure the height of a tree using millimetres.

_____

_____

_____

_____

7. ## Journal Entry

(5) Write about a time when you or a family member had to estimate the length or height of something. Is it always necessary to have an exact measurement? Explain.

(3) **8.** Put an ✘ beside the objects that would measure about 1 cm in width.

a. your fingernail _____ **b.** a pen _____

c. a loonie _____ **d.** a paper clip _____

(2) **9.** Put an ✘ beside the objects that would measure **about** 1 dm in length.

a. a CD case _____ **b.** a small juice box _____

c. a fork _____ **d.** a stereo speaker _____

(2) **10.** Name two household objects that would measure about 1 mm in length, width, or thickness.

• _____ • _____

(1) **11.** If an envelope measures about 1 dm in width, about how many centimetres wide is it? _____

(1) **12.** If the handle of a toothbrush measures about 1 cm in width, about how many millimetres wide is it? _____

(2) **13.** Put an ✘ beside the objects that are shorter than 1 dm.

a. a hockey stick _____ **b.** an eraser _____

c. an egg _____ **d.** your shoe _____

(6) **14.** Circle the measurement that is most reasonable for each object.

a. width of a door

90 mm 90 cm 90 dm

b. height of an adult

185 m 185 dm 185 cm

c. length of a pen

150 mm 150 cm 150 m

d. amount of rainfall

3 cm 3 dm 3 m

e. thickness of a book

5 mm 5 cm 5 dm

f. length of a stick of gum

7 mm 7 cm 7 dm

(15)

Day 3: Problem Solving

Solve the following problems by using the Drawing a Diagram strategy or some other strategy you know. Follow the four-step problem-solving process.

Show your diagram and any calculations you make.

(5)

1. Taylor and Henri were travelling to Camp Lakeside to attend Scout camp. They started their journey by bus early in the morning. After they had traveled 65 km, they got off the bus and got into a van that took them 55 km to a meeting point with the other Scouts. The Scout leader told the boys that they were $\frac{1}{3}$ of the way to Camp Lakeside. From there, they would travel the rest of the way by canoe and on foot.

How far was Camp Lakeside from the hometown of Taylor and Henri?

ANSWER TO THE PROBLEM

_____

_____

(5) **2.** Zeb was feeding the animals in his petting zoo. He started at the llama pen. Then he walked down the hill 4 pens to feed the rabbits. The rabbits were in the first pen in the zoo. Then Zeb walked uphill 8 pens to feed the sheep. From there he went down the hill 3 pens to feed the potbelly pig. Then he walked up the hill 6 pens to feed the chickens. The chickens were in the last pen at the top of the hill. How many pens are there in Zeb's petting zoo?

ANSWER TO THE PROBLEM

_____

_____

(5)

3. A squirrel was searching for an acorn he had hidden in the branches of a tree. First he went up the trunk to the 7th branch, but he didn't find anything. Next, he went down 2 branches, and then he climbed up 9 branches. Looking down, he spotted an acorn below. He went down 3 branches and picked up the acorn. Finally, he scurried up 5 branches to the very top branch and sat down to eat. How many branches are on the tree?

ANSWER TO THE PROBLEM

_____

_____

(36)

Day 4: Comparing and Changing Units

(3) **1.** Fill in the blanks with the correct answers.

a. There are _____ mm in 1 cm.

b. There are _____ cm in 1 dm.

c. There are _____ mm in 1 dm.

(6) **2.** Complete the following table. An example has been done for you.

	mm	cm
Example:	73	**7.3**
		3.5
	56	
		11.2
	231	
		19
	140	

(8) **3.** Which of these measurements is larger? Circle the larger measurement in each pair of numbers. Be careful!

a. 99 cm or 100 mm

b. 43 cm or 4.3 cm

c. 5.2 cm or 53 mm

d. 10.9 cm or 106 mm

e. 13 cm or 1.4 cm

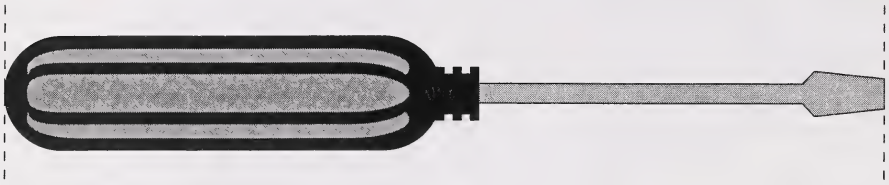
f. 21 cm or 209 mm

g. 35 mm or 3.4 cm

h. 99 cm or 9.9 cm

(14) **4.** Measure the following objects with a ruler. Write each measurement in both centimetres and millimetres.

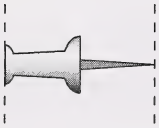
a.



Length: _____ cm

_____ mm

b.



Length: _____ cm

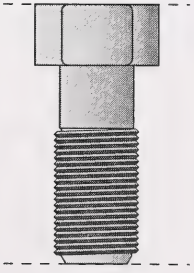
_____ mm

c.

Length: _____ cm

_____ mm

d.



Length: _____ cm

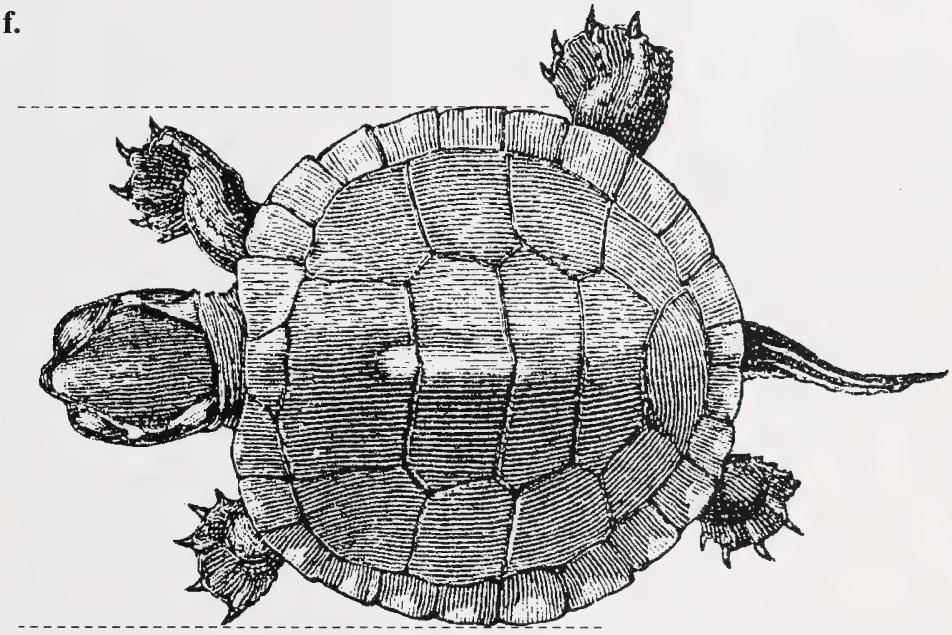
_____ mm

e.

Length: _____ cm

_____ mm

f.



Length: _____ cm

_____ mm

g.

Length: _____ cm

_____ mm

(3) **5.** Use a ruler to draw lines with the following lengths.

a. 8.7 cm

b. 11.4 cm

c. 3.6 cm

(2) **6.** Draw a rectangle that is 10.5 cm long and 6.5 cm wide.

32

Day 5: Writing Measurements Using Decimals

5

1. Journal Entry

Decimal numbers are more exact numbers than estimates. Think of jobs that people do where it is very important to use exact measurements. Tell why they must use decimal numbers in their work.

(6)

2. Measure these lines in centimetres and millimetres.

a. _____ _____ cm _____ mm

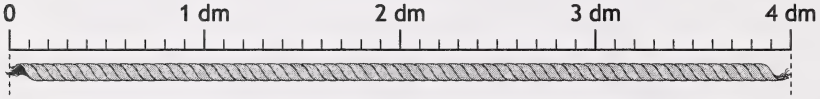
b. _____ _____ cm _____ mm

c. _____ _____ cm _____ mm

(4)

3. Tell how long each piece of string is. Give your answer in **decimetres**. (The decimetres are shown smaller than their actual size.)

a.



_____

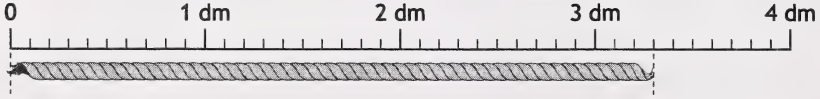
b.

_____

c.

_____

d.



_____

(4) **4.** You have a picture that is 47.5 cm long and 65.5 cm wide. You bought a frame that holds pictures that measure 475 mm by 655 mm. Will your picture fit in the frame? Explain your answer.

_____

_____

_____

_____

_____

_____

_____

_____

(8) **5.** Rewrite each measurement using the new unit shown.

a. 41 cm = _____ dm

b. 77 mm = _____ cm

c. 7.2 dm = _____ cm

d. 14.9 cm = _____ mm

e. 315 mm = _____ cm

f. 110 cm = _____ dm

g. 89 dm = _____ cm

h. 196 mm = _____ cm

(5) **6.** Tell whether each sentence makes sense or not by putting a check mark in the correct box. If the sentence **does not** make sense, rewrite it with a unit that does make sense.

a. My pencil is 19.1 dm long.

❑ Makes sense
❑ Does not make sense

_____

b. The doorway is 85 cm wide.

❑ Makes sense
❑ Does not make sense

_____

c. The rake handle is 13.5 cm long.

❑ Makes sense
❑ Does not make sense

_____

d. The pop can is 12 mm tall.

❑ Makes sense
❑ Does not make sense

_____

e. Fred is 150 dm tall.

❑ Makes sense
❑ Does not make sense

_____

31

Day 6: Exploring Metres

(5) **1.** Fill in the blanks with the correct answers.

a. 1 m = _____ cm

b. 1 m = _____ dm

c. 1 dm = _____ cm

d. 1 cm = _____ mm

e. 1 dm = _____ mm

(5) **2.** Complete the following table.

Metres	1	2	5	8	11	17
Centimetres	100					

(1) **3. a.** If a table measures 3 m in length, how many centimetres long is it?

_____

(2) **b.** Tell how you know.

_____

_____

_____

(1) **c.** How many decimetres long is the table? _____

(3) **4.** Describe a method you could use to estimate the length in metres of a fence around a garden.

(3) **5.** Which is larger, a snake that is 99 cm long or a snake that is 1 m long? Tell how you know.

(6) **6.** Choose the measurement that makes the most sense for each of the following objects. Put a check mark in the correct box.

a. the length of a car

- ❑ more than 1 m
- ❑ 1 m
- ❑ less than 1 m

b. the length of your shoe

- ❑ more than 1 m
- ❑ 1 m
- ❑ less than 1 m

c. a piece of lumber that is 100 cm long

- ❑ more than 1 m
- ❑ 1 m
- ❑ less than 1 m

d. the length of your leg

- ❑ more than 1 m
- ❑ 1 m
- ❑ less than 1 m

e. the height of your best friend

- ❑ more than 1 m
- ❑ 1 m
- ❑ less than 1 m

f. the length of a bathtub

- ❑ more than 1 m
- ❑ 1 m
- ❑ less than 1 m

7. ## Journal Entry

Explain how decimals help you to record measurements of length.

(5)

(36)

Day 7: Metres and Kilometres

(3) **1.** Fill in the blanks.

a. 1 m = _____ dm

b. 1 m = _____ cm

c. 1 km = _____ m

(1) **2. a.** If a desk measures 1.68 m in length, how many centimetres long is it? _____

(2) **b.** Tell how you know.

_____

_____

_____

(5) **3.** Put the decimal point in the correct place so that the following sentences make sense.

a. A hockey net is about 13 m high.

b. Most adults are less than 20 m tall.

c. His father's shoe is about 325 cm long.

d. The birdhouse is 25 dm long and 21 dm wide.

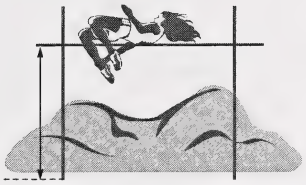
e. The sidewalk from the house to the garage is 165 m long.

(7)

4. Circle the measurement that makes sense for each of the following.

a.

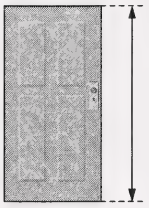
high jump



1.20 m 120 m 12.0 m

b.

height of a door



20 cm 20 m 2.0 m

c.

length of a chalk brush

15 mm 15 cm 15 dm

d.

length of a felt marker

8.9 cm 89 cm 890 cm

e.

height of a stepladder

35 cm 3.5 m 35 m

f.

distance jogged in one hour

1.2 km 12 m 12 km

g.

distance travelled by a car on the highway in one hour

800 km 80 km 8 km

[1]

[1] PhotoDisc, Inc.

(2) **5.** If you cut a 1-m string of licorice into ten equal lengths to be shared with your friends, how long will each new length be?

(9) **6.** Which unit of measurement would you use to measure each of the following objects?

a. the distance from Edmonton to Toronto

b. the length of a curling rink

c. the width of a fingernail

d. the height of a waterfall

e. the length of your eraser

f. the length of a garden

g. the distance across the province of Manitoba

h. the length of your eyelash

i. the width of a page in a book

(2) **7.** Tell why you would **not** use kilometres to measure people.

8.

Journal Entry

(5)

Tell how you decide which units to use when you are measuring. Give examples of things you have measured and the units you used.

(15)

Day 8: Graphing and Measuring

1. For this activity, construct a bar graph to show the number of cupfuls of water it takes to fill five different containers.

You will need the following materials:

- 1 cup (a measuring cup or other cup)
- 5 bowls or containers of different sizes
- water

Do this activity at or near a sink in case you spill any water.

(5)

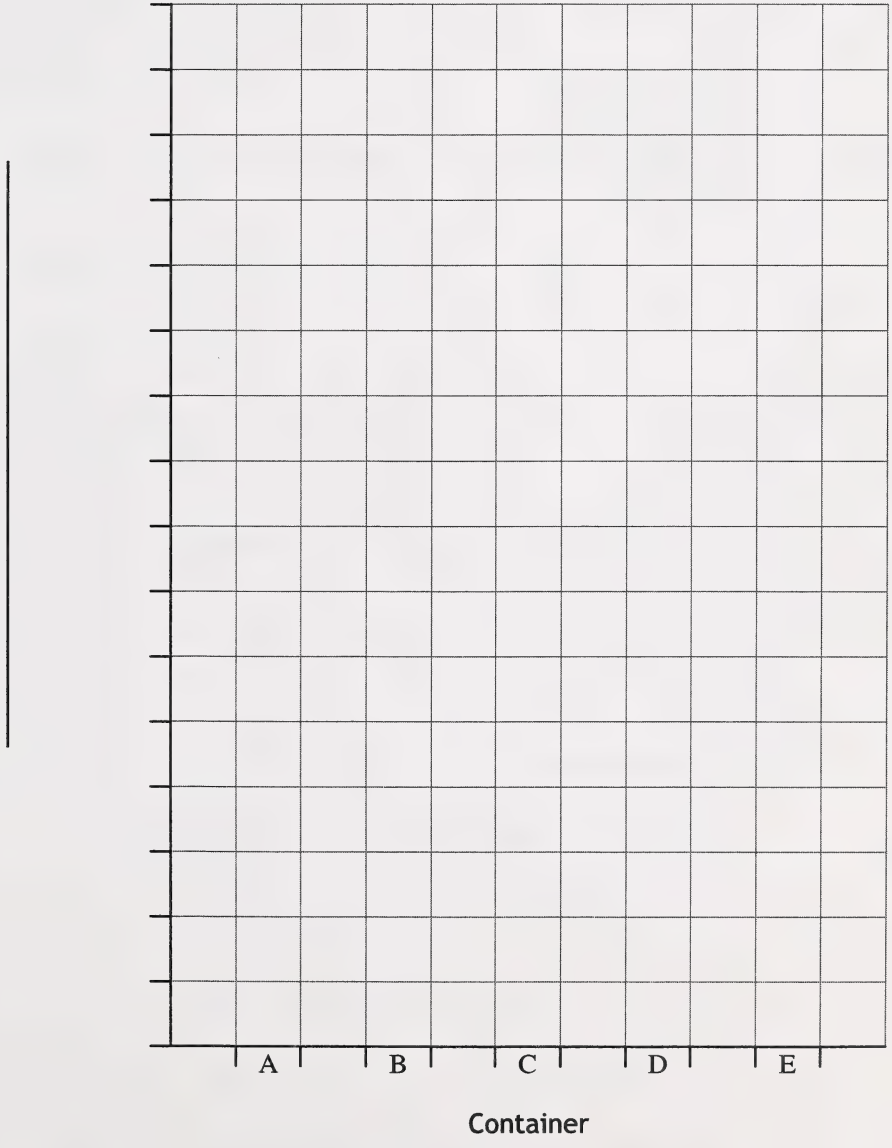
a. Label your containers Container A, Container B, Container C, Container D, and Container E. Use the following table to keep track of the number of cupfuls of water it takes to fill each bowl or container.

Note: If a container does not hold an exact number of cupfuls, round your measurement to the nearest number of whole cupfuls. For example, if a container holds a bit more than $6\frac{1}{2}$ cups, round the measurement up to 7 cups.

Container	Number of Cupfuls
A	
B	
C	
D	
E	

(10) **b.** Use the data from your table to construct a bar graph showing the number of cupfuls of water each container holds. Choose an interval for the vertical axis that allows you to use as much of the grid form as you can.

Title: _____



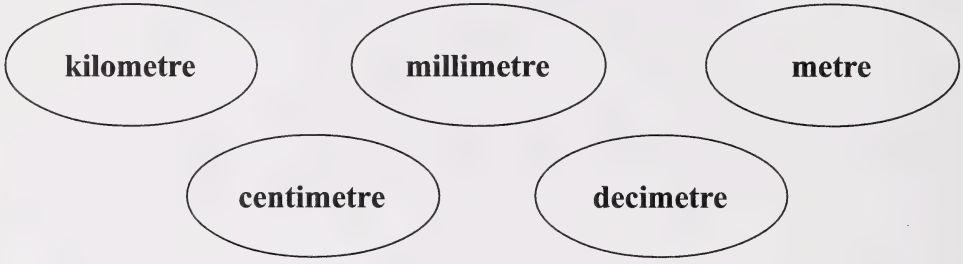
Day 9: Putting It All Together (I)

42

Part 1: Reviewing the Concepts

Use what you know about measurement to complete the following questions. Look back in the Student Module Booklet if you need to review any of the concepts you have learned. You are to complete **all** of the questions in Part 1.

(2) **1.** Arrange these units of measurement in order from smallest to largest.



Smallest: _____

_____

_____

_____

Largest: _____

(5) **2.** Fill in the blanks with the correct responses.

a. There are _____ mm in 1 cm.

b. There are _____ cm in 1 dm.

c. There are _____ dm in 1 m.

d. There are _____ cm in 1 m.

e. There are _____ m in 1 km.

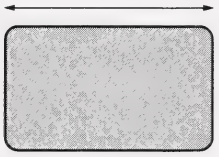
(3)

3. **Do not** use your ruler or measuring tape for the following questions. Give an **estimate** only.

a. Make a mark on this line that would show about how far 1 dm is from the starting point. (Estimate the distance.)

---

b. **Estimate** the length of this figure.



_____ cm

c. **Estimate** the height of this figure.

_____ mm

(4)

4. Would it be best to use centimetres or millimetres to measure the following objects? Circle the best unit.

a. the width of a button centimetres or millimetres

b. the height of a milk carton centimetres or millimetres

c. the length of a rose petal centimetres or millimetres

d. the length of a skipping rope centimetres or millimetres

(4) **5.** Choose the best unit to measure the following objects. Circle the best unit.

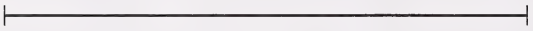
a. the height of a flagpole metres or centimetres

b. the width of a football field kilometres or metres

c. the length of a bathtub metres or centimetres

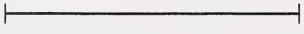
d. the distance between Calgary and Vancover metres or kilometres

(6) **6.** Use a ruler to measure the following lines. Give your answers in centimetres and millimetres.

a. 

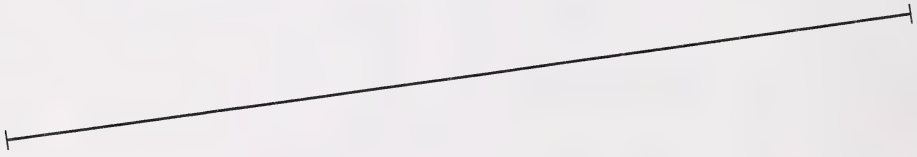
_____ cm

_____ mm

b. 

_____ cm

_____ mm

c. 

_____ cm

_____ mm

(3) **7.** Change these units from centimetres to millimetres.

a. 2 cm = _____ mm

b. 5 cm = _____ mm

c. 5.5 cm = _____ mm

(3) **8.** Change these units from millimetres to centimetres. Remember to use decimals if necessary.

a. 70 mm = _____ cm

b. 75 mm = _____ cm

c. 98 mm = _____ cm

(3) **9.** Change these units from decimetres to centimetres.

a. 3 dm = _____ cm

b. 6 dm = _____ cm

c. 6.4 dm = _____ cm

(3) **10.** Change these units from centimetres to decimetres. Remember to use decimals if necessary.

a. 50 cm = _____ dm

b. 55 cm = _____ dm

c. 90 cm = _____ dm

(3) **11.** Change these units from metres to kilometres. Remember to use decimals if necessary.

a. 1000 m = _____ km

b. 3000 m = _____ km

c. 3500 m = _____ km

(3) **12.** Change these units from kilometres to metres.

a. 2 km = _____ m

b. 2.5 km = _____ m

c. 2.9 km = _____ m

10

Part 2: Challenge Activities

Choose **either** Activity A **or** Activity B. You may do both if you wish.

Activity A: Animal Fun

10

In this activity, you will estimate, compare, and measure the lengths of different animals.

1. Think about the lengths of the following adult animals in real life. Choose the unit you think would be best to measure these animals. Then write an estimate of how long each animal would be. You may write the unit in the short form if you wish.

millimetres	**centimetres**	**decimetres**	**metres**

a.

Elephant

Unit: _____

Estimated length: _____

b.

Ladybug

Unit: _____

Estimated length: _____

c.

Crocodile

Unit: _____

Estimated length: _____

d.

Chipmunk

Unit: _____

Estimated length: _____

e.

House spider

Unit: _____

Estimated length: _____

f.

Draw your favourite animal.

Unit: _____

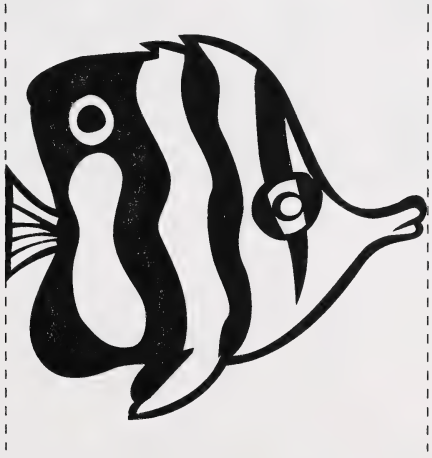
Estimated length: _____

2. The following chart shows the average lengths of some common animals. Write the missing measurements in the table by changing the units. An example is done for you. You will have to use decimal numbers for some answers.

Animal	Length in Centimetres	Length in Decimetres	Length in Metres
Coyote	125 cm	12.5 dm	1.25 m
Cheetah	200 cm		
Zebra		28 dm	
Lion			2.7 m
Prairie Dog		4 dm	
Rattlesnake			1.5 m
Black Bear	160 cm		

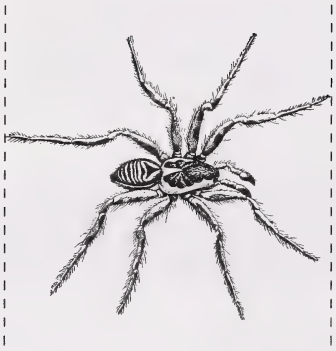
3. Use your ruler to measure the length of these animals in centimetres and millimetres.

a.



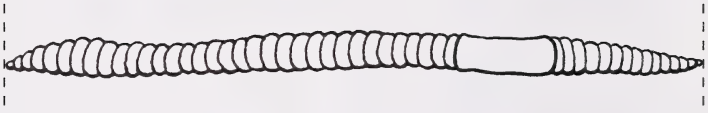
_____ cm _____ mm

b.



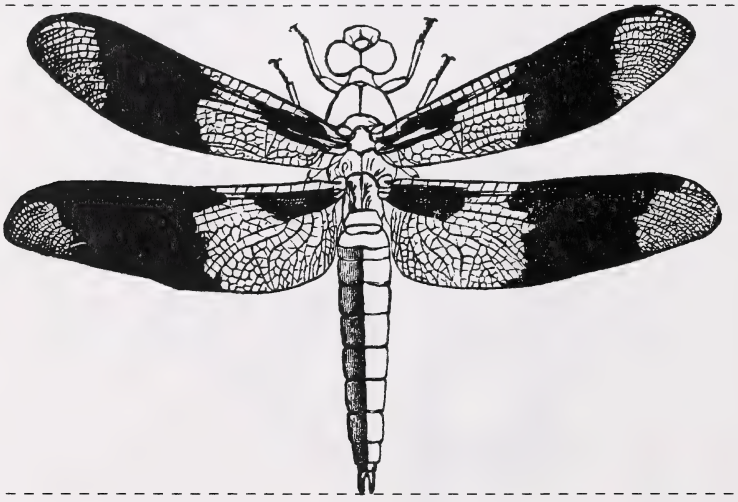
_____ cm _____ mm

c.



_____ cm _____ mm

d.



_____ cm _____ mm

e. Draw your own insect or small animal and measure the length.

_____ cm _____ mm

10

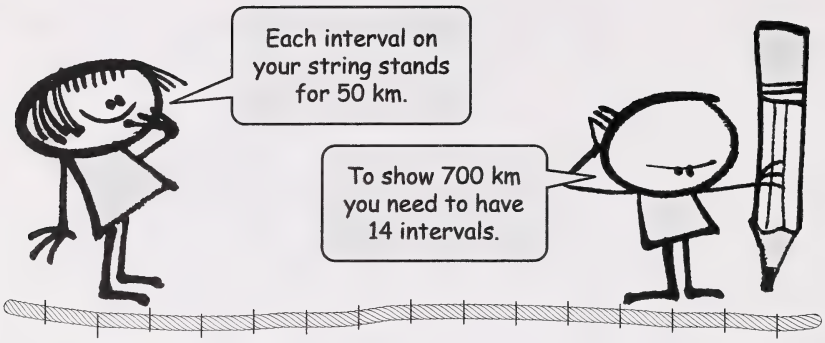
Activity B: Taking a Trip

To plan a trip by car around your province, it's useful to be able to read and understand a road map. In this activity you will measure out a 700-km road trip within your province.

The materials you need are

- a road map of your province
- a felt marker (Use a dark colour.)
- a piece of string about 1 m long

Ask your home instructor to help you find the scale on the bottom of the road map. The scale is like a ruler that measures kilometres on a map. Most scales on road maps show 50 km or 100 km. Use the felt marker to mark intervals of 50 km along the string. (This works best if one person moves the string along the scale while the other person marks off the 50-km intervals.) Cut your string at the 700-km mark.



First write the name of your home town in the box.

1. Lay the string so that one end is at your home town. Stretch the string out so that it is in a straight line. Find a town that is at the end of the string (700 km away). Write the name of the place.

The real distance to this town is likely more than 700 km by car. This is because the road you would drive to get there is not a straight line.

You may have heard the expression "as the crow flies" being used when people talk about the distance between two places. When you measure distance in a straight line on a map using a ruler or string, you are measuring distance **as the crow flies**.

2. Use your string to measure the following distances from your home town "as the crow flies." Hold the string straight and move it around in any direction until you find a town or city the distance shown from your home town.

a. Find a town 100 km from your town. Write its name.

_____

b. Find a town 50 km from your home. Write its name.

_____

c. Find a town that is 350 km from your home. Write its name.

_____

d. Find a town that is 500 km from your home. Write its name.

_____

3. Find two other places that are 500 km apart.

• _____ • _____

4. Find two places that are 200 km apart.

• _____ • _____

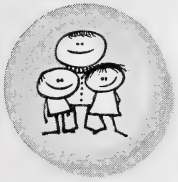
Now you are ready to start planning your 700-km trip. Begin with one end of the string at your home town. This time you will **not** hold the string straight. To be as accurate as possible, lay the string so that it follows the bends and curves of the roads shown on the map.

5. Write down the names of five towns or cities you would visit along the way. Beside each name write the distance in kilometres from your home town to that place. Write the distance to the nearest 50 km. The last place you visit will be at the 700-km mark on your string.

Places Visited	Distance from _____ (Name of home town)

Day 10: Assessing What You Know (I)

Home Instructor's Assessment Page for Day 10



Directions for the Home Instructor

Remove this sheet from the Assignment Booklet. Use the Checklist and Comments sections to help evaluate the student's work. When the Day 10 activities have been completed, firmly attach this sheet to Assignment Booklet 7A.

Student's Name _____

Home Instructor _____ Date _____

Indicate in the Checklist and Comments sections what you observe and hear as the student works through the assessment task. Encourage the student to "think out loud" as he or she works. As you observe, you may wish to use questions or prompts like the following to help in determining the student's level of understanding.

- Can you measure that line (or object) any other way?
- What's the difference between length and width, width and height, length and distance?
- How do you know which unit to use? Where else would you use that unit?
- Why did you estimate that way? Is another answer possible? Give me an example.
- What steps are you following to do the calculation?

Checklist

A. The student is able to accurately measure and draw lines using centimetres.	☐ Yes	☐ Not yet
B. The student chooses suitable units to measure different objects.	☐ Yes	☐ Not yet
C. The student understands how to proceed after reading a problem that involves measurement.	☐ Yes	☐ Not yet
D. The student is able to give a reasonable estimate about the answer to a measurement problem.	☐ Yes	☐ Not yet
E. The student arrives at accurate solutions to measurement problems.	☐ Yes	☐ Not yet

Comments

Please add any comments you have regarding the student's performance on the assessment task or any other information about the student's learning experiences in this module that you would like to share with the teacher.

_____

_____

_____

_____

_____

_____

_____

_____

_____

Day 10: Assessing What You Know (I)

Student's Assessment Page for Day 10

Student's Name _____

19

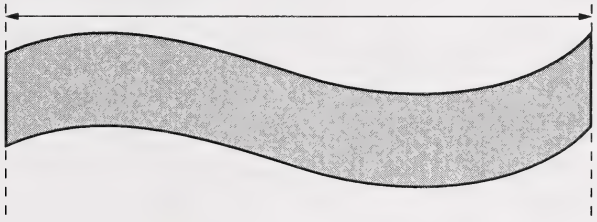
4

Part 1: Showing What You Can Do

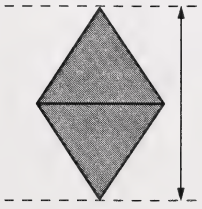
Complete the following activities. You will need to use a centimetre ruler to do some questions. **Use the ruler only when asked to do so**. Show all your calculations for the assignment.

1. **Estimate** the length or width of the following figures. Do **not** use your ruler to measure. Choose suitable units for your answers. Do not use the same kind of unit for each estimate.

   a. My estimate: _____



   b. My estimate: _____



c. My estimate: _____

d. My estimate: _____

(3) **2.** Use your ruler to draw a line for each measurement.

a. 1.1 dm

b. 54 mm

c. 7.2 cm

(5) **3.** Choose the best unit for each measurement.

millimetres	centimetres	decimetres	metres

a. the distance to your favourite store _____

b. the height of a cup _____

c. the length of a van _____

d. the thickness of a nickel _____

e. the width of a table _____

(5) **4.** Change each measurement to the unit asked for. You may need to use decimal numbers.

a. 14 cm = _____ mm

b. 29 cm = _____ dm

c. 340 cm = _____ m

d. 2000 m = _____ km

e. 45 dm = _____ m

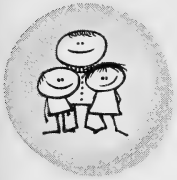
(2) **5.** Measure each object accurately with your ruler. Use a decimal number if necessary.

a. How many mm? _____

b. How many cm? _____

(10)

Part 2: Basic Number Facts



This section is made up of two timed tests. Ask your home instructor to time you as you do each test. Wait for your home instructor to tell you when to begin. **Do not mark these tests. They will be marked by your teacher.**

1. Multiplication Number Facts
Timed Test: 2 minutes

(5)

$8 \times 9 =$	$6 \times 7 =$	$4 \times 3 =$	$8 \times 5 =$	$2 \times 9 =$
$\begin{array}{r} 8 \\ \times\ 7 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times\ 3 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times\ 7 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times\ 8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times\ 6 \\ \hline \end{array}$
$4 \times 7 =$	$9 \times 4 =$	$8 \times 8 =$	$3 \times 7 =$	$5 \times 9 =$
$\begin{array}{r} 4 \\ \times\ 5 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times\ 8 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times\ 8 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ \times\ 9 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times\ 4 \\ \hline \end{array}$
$7 \times 7 =$	$6 \times 8 =$	$9 \times 7 =$	$4 \times 4 =$	$6 \times 2 =$

If you finish before the two minutes are up, check your answers. Wait for your home instructor to tell you when to begin the next test.

(5) **2.** Division Number Facts
Timed Test: 2 minutes

$56 \div 7 =$	$64 \div 8 =$	$21 \div 3 =$	$16 \div 8 =$	$63 \div 9 =$
$4\overline{)8}$	$8\overline{)40}$	$7\overline{)63}$	$8\overline{)56}$	$7\overline{)14}$
$36 \div 9 =$	$42 \div 7 =$	$49 \div 7 =$	$72 \div 9 =$	$8 \div 8 =$
$5\overline{)30}$	$4\overline{)32}$	$3\overline{)27}$	$5\overline{)25}$	$8\overline{)24}$
$40 \div 5 =$	$56 \div 8 =$	$12 \div 6 =$	$15 \div 3 =$	$27 \div 9 =$

If you finish before the two minutes are up, check your answers.

Mathematics 4
Assignment Booklet 7A
Module 7
LRDC
2000

ASSIGNMENT BOOKLET 7B

Mathematics 4
Module 7: Days 11–18

Home Instructor's and Student's Comments:

STUDENT FILE NUMBER
(if label is missing or incorrect)

_____

Date Submitted:

_____

Apply Module Label Here

Name

Address

Postal Code

Please verify that preprinted label is for correct course and module.

FOR SCHOOL USE ONLY

Assigned Teacher:

_____

Date Assignment Received:

_____

Grading:

_____

Teacher's Comments

_____

Teacher's Signature

Home Instructor: Keep this sheet when it is returned to you as a record of the student's progress.

INSTRUCTIONS FOR SENDING IN THIS DISTANCE LEARNING ASSIGNMENT BOOKLET

When you register for distance learning courses, you are expected to send in Assignment Booklets for corrections regularly. Try to send each Assignment Booklet as soon as you have completed it. Before sending your Assignment Booklet, please check the following:

- Are all the assignments completed? If not, explain why.
- Has your work been reread to be sure the spelling and details are correct?
- Is the record form filled out and the correct module label attached?

MAILING

1. Postage Regulations

Do **not** enclose letters with Assignment Booklets.

Send all letters in a separate envelope.

2. Postage Rates

Take your Assignment Booklet to the post office and have it weighed. Attach enough postage and seal the envelope. Assignment Booklets will travel faster if correct postage is used and if they are in large envelopes that are no more than two centimetres thick.

FAXING

1. Assignment Booklets may be faxed. Contact your teacher for the fax number.

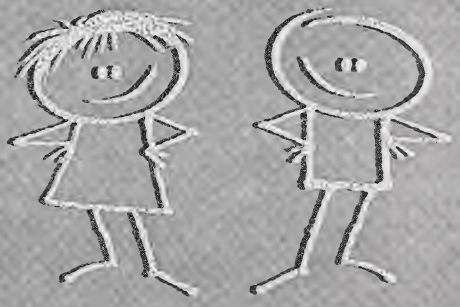
2. All faxing costs are the responsibility of the sender.

E-MAILING

Assignment Booklets may be e-mailed. Contact your teacher for the e-mail address.

Mathematics 4

Module 7
Measurement



Assignment Booklet 7B

Learning Technologies Branch

Alberta LEARNING

FOR TEACHER'S USE ONLY

Summary

	Total Possible Marks	Your Mark
Day 11	24	
Day 12	20	
Day 13	14	
Day 14	25	
Day 15	14	
Day 16	35	
Day 17	(1) 40	
	(2) 10	
Day 18	(1) 24	
	(2) 10	
	216	

Teacher's Comments

This document is intended for	
Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
General Public	
Other	

Mathematics 4
Module 7: Measurement
Assignment Booklet 7B
Learning Technologies Branch
ISBN 0-7741-1834-2

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ASSIGNMENT BOOKLET 7B
MATHEMATICS 4 – MODULE 7: MEASUREMENT

Notes to the Home Instructor

Learning Tasks

The nine mathematics modules and the accompanying Assignment Booklets have been developed so that students become involved in a variety of learning tasks that help them develop mathematical skills, learn how to communicate mathematically, and become mathematical problem solvers.

When completing the assignments, students should work carefully and neatly. Students should do the activities in the Assignment Booklets **independently**. This will ensure that the teacher acquires a more accurate picture of the student's ability and understanding.

If the student is having difficulties, he or she should review the appropriate sections in the Student Module Booklet. The home instructor can assist the student by reviewing these sections with the student and encouraging him or her to explain, describe, or demonstrate (using manipulatives, drawings, and so on) his or her understanding of a particular concept or idea.

Assessment and Evaluation

A broad range of assessment tools will be used to gather information for the purpose of evaluating the student's knowledge and understanding of curriculum skills and concepts. It is important that the teacher learns how the student thinks about mathematics as well as what concepts and skills the student has mastered. Assignment Booklet questions, journal entries, performance assessments, observations by the home instructor, and student self-evaluation pages may all be used. As well, the teacher may also use a final test.

In order to give the student and home instructor feedback on the student's current level of achievement throughout the school year, the student's teacher will provide written comments and assign a grade at the end of each module. The mark for each module will be determined primarily by how well the student completes the assignments in the Assignment Booklets. However, other broad-based assessment techniques (journal entries, performance assessments, and so on) may also be used.

24

Day 11: What Is Perimeter?

1. Turn to page 116 in your textbook. Complete question 1 of Practise Your Skills.

(3)

Perimeter of A: _____ units

Perimeter of B: _____ units

Perimeter of C: _____ units

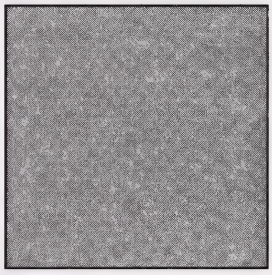
(2)

2. Use a ruler to measure the perimeter of the following figures in **centimetres**.

a.

Perimeter = _____

b.

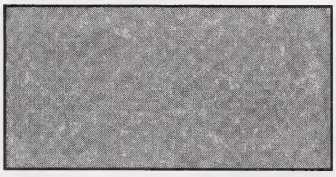


Perimeter = _____

(2)

3. Use a ruler to measure the perimeter of the following figures in **millimetres**.

a.



Perimeter = _____

b.

Perimeter = _____

(3) **4.** Describe a quick way to find the perimeter of a rectangle. Give an example to show how this method works.

_____

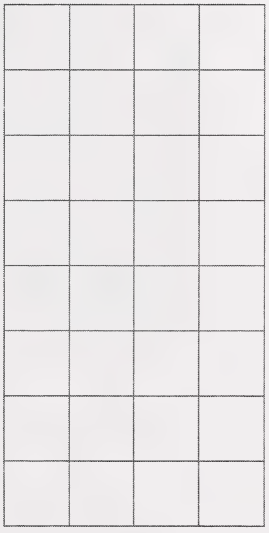
_____

_____

_____

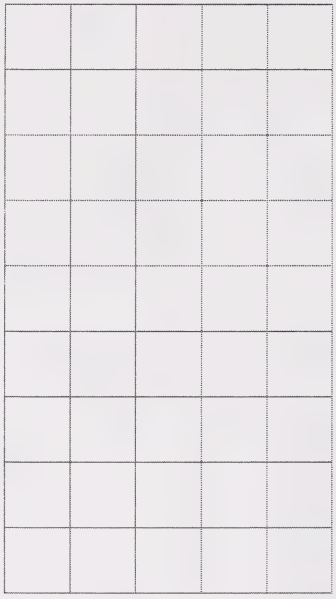
_____

(3) **5. a.** Each square on this grid is 1 cm by 1 cm. Draw a rectangle on the grid that is 6 cm long and 2 cm wide. Use the squares to help you calculate the perimeter.



The perimeter is _____ cm.

(3) **b.** Draw a rectangle that is 7 cm long and 3 cm wide. Calculate the perimeter.



The perimeter is _____ cm.

(3) **6.** The picture below needs a frame. Draw and colour a rectangular frame to go around the picture. Then measure the perimeter of the outside edge of your frame.

Perimeter = _____ + _____ + _____ + _____

= _____

(5)

7.

Journal Entry

Write about a time when you or a family member needed to find the perimeter of something in your home or yard. Tell what you measured and how you calculated the perimeter.

(20)

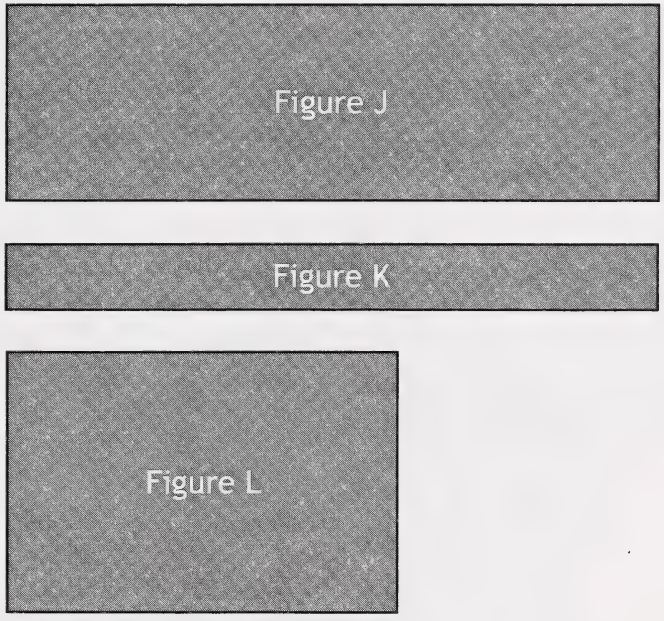
Day 12: Estimating and Comparing Perimeters

(2)

1. Do not use your ruler for this question.

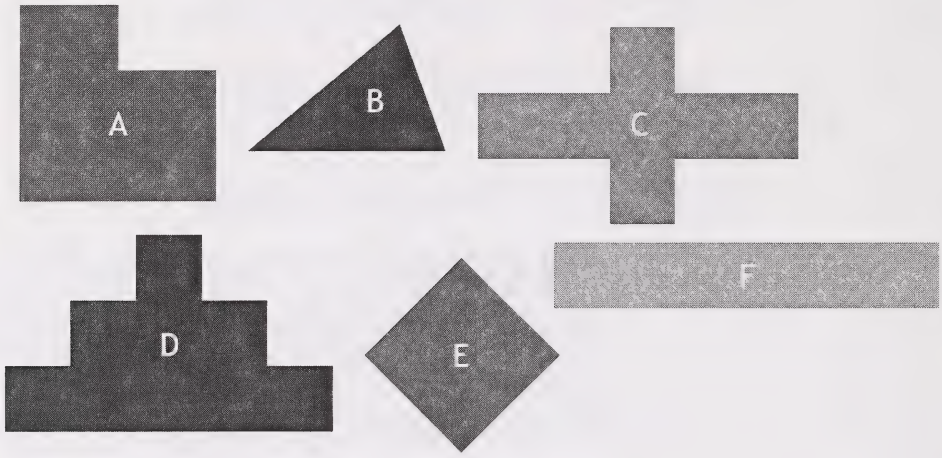
Look at the following rectangles. Which one do you think has the largest perimeter? Write **L** in the blank beside it.

Which rectangle has the smallest perimeter? Write **S** in the blank beside it.



2. Turn to page 128 of your textbook. Look at question 1. Estimate which two figures have the greatest perimeter and which two figures have the smallest perimeter. **Do not** measure the figures. You can name the figures using the letters provided below.

(4)



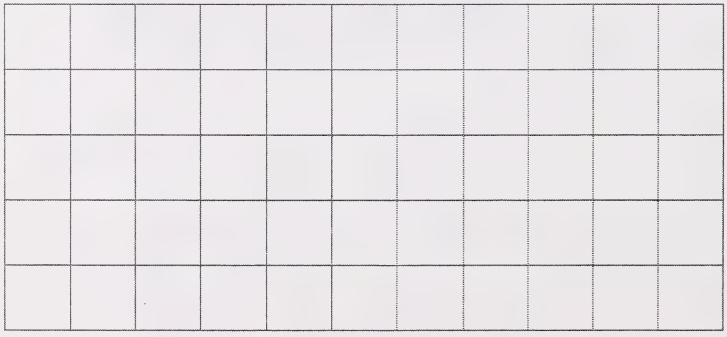
Greatest perimeter: _____ Smallest perimeter: _____

_____ _____

3. Use the following centimetre grids to draw the rectangles described. For each rectangle, calculate the lengths of the three missing sides.

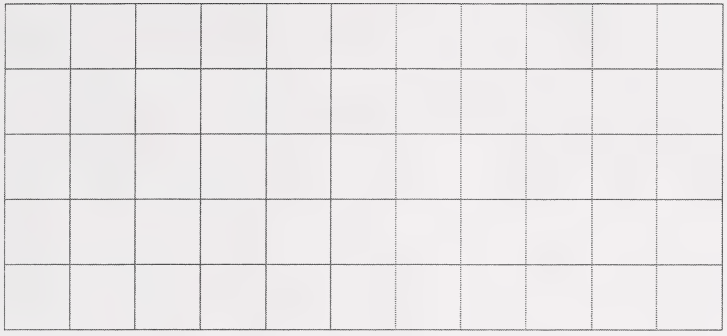
(4)

a. One side of the rectangle is 5 cm. The perimeter is 14 cm.



5 cm + _____ cm + _____ cm + _____ cm = 14 cm

(4) **b.** One side of the rectangle is 3 cm. The perimeter is 18 cm.



3 cm + _____ cm + _____ cm + _____ cm = 18 cm

4. Solve the following perimeter problems. Draw a diagram and show your work for each.

(3) **a.** Jake's computer room is a rectangular shape that measures 4 m wide and 5 m long. What is the perimeter of the room?

(3) **b.** A volunteer is putting 8 m of red satin trim around the outside edge of a table for the annual craft sale. The table is 1 m wide. How long is the table?

(14)

Day 13: Circumference

(1) **1. a.** What does circumference mean?

_____

_____

(1) **b.** How is circumference different from perimeter?

_____

_____

(1) **c.** What measuring tools could be used to find the circumference of a figure?

- _____
- _____

(4) **2.** Find these (or similar) objects in your home. Measure the circumference of each one. Use a suitable measuring tool. Use centimetres in your answers.

a. a pop can _____

b. a ketchup bottle _____

c. a plastic margarine container (900-g size) _____

d. a can of fruit or vegetables (398-mL size) _____

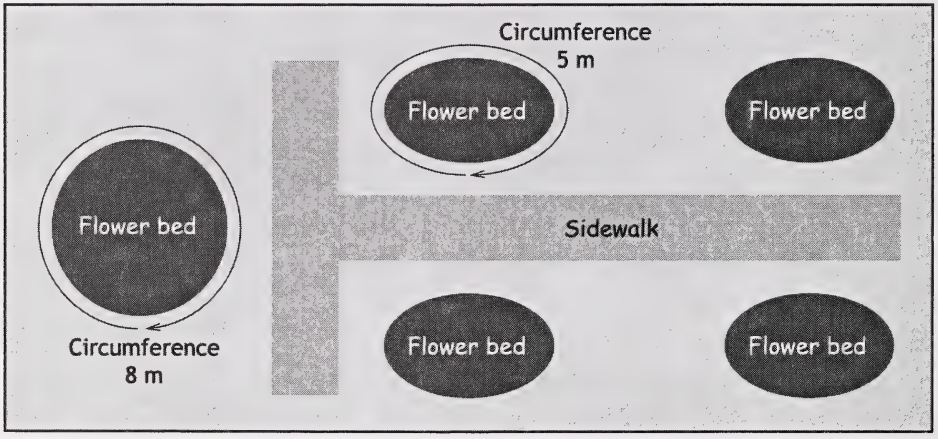
(3) **3.** Use your estimating skills! Without using a measuring tool, answer these questions about the objects in question 2.

a. The circumference of the pop can is smaller than the height of the pop can. True or False (Circle one.)

b. The height of the margarine container is _____ than the circumference of the margarine container.

c. The circumference of the ketchup bottle is _____ than the height of the ketchup bottle.

(4) **4.** Use the diagram below to find out how much edging would be needed for the five curved flower beds. The oval flower beds all have the same circumference. Show your work. Write the answer in a sentence.



_____

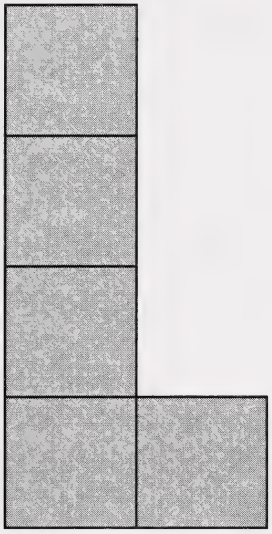
_____

25

Day 14: Perimeter of Polygons

(2)

1. Use the shape below to answer the following questions.



a. If each square measures **1 unit** on each side, the perimeter of the arrangement of squares would be _____ units.

b. If each square measures **2 units** on each side, the perimeter of the arrangement would be _____ units.

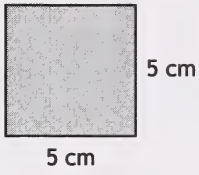
(2)

2. A triangle has sides that each measure 6 cm long. What is the perimeter of the triangle?

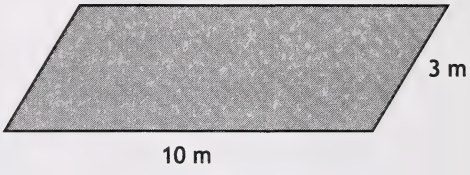
(2) **3.** A rectangle has a perimeter of 40 m. The length of one of the sides is 15 m. What are the lengths of the other sides of the rectangle?

(4) **4.** Find the perimeter of the following polygons. Include the correct units in your answer.

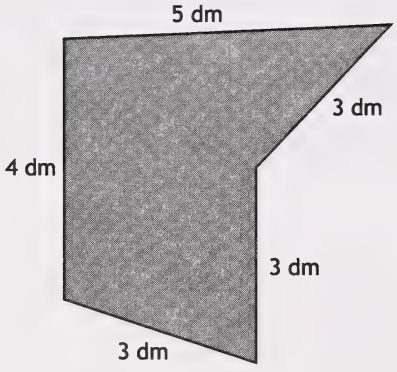
a. _____



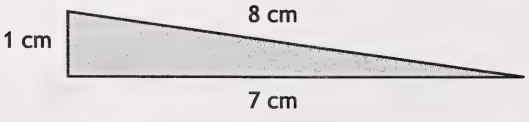
b. _____



c. _____



d. _____

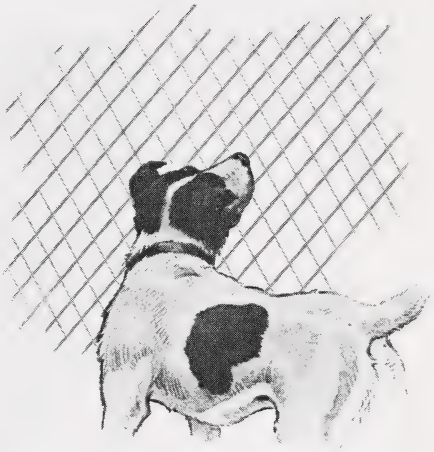


Solve the following story problems.

(6)

5. Ari found 24 m of wire fence behind his garage. He decided to build a dog run that will use all 24 m of fence.

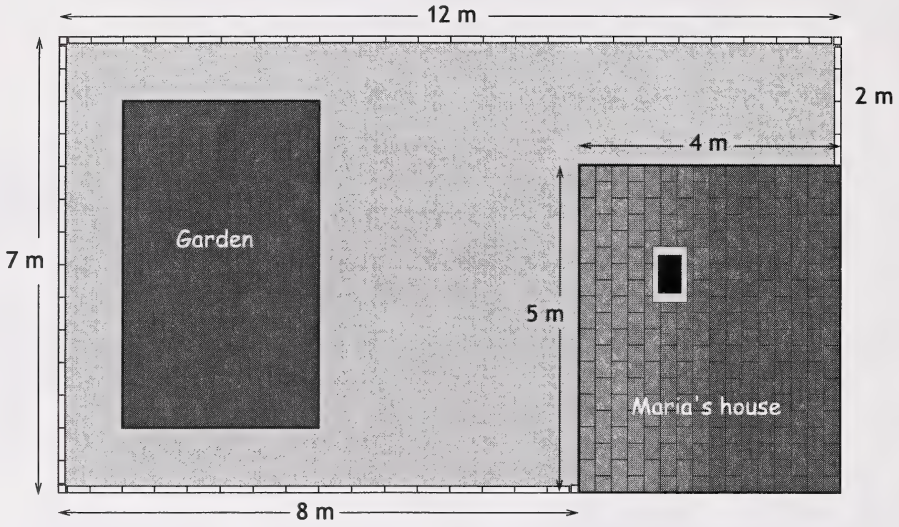
Draw two different shapes for the dog run. Both should have straight sides and use 24 m of wire fence around the perimeter. The shapes do not have to be rectangles. Label the length of each side of the shapes that you draw.



[1]

[1] ©2000–2001 www.arttoday.com

6. This is a diagram of Maria's yard.



(2) **a.** Maria wants to build a fence around the entire backyard area. How many metres of fencing will she have to use?

(2) **b.** Maria also plans to put a garden in her backyard. The garden will be a rectangle measuring 5 m long and 3 m wide. How much chicken wire will she need to go all around the garden?

7. ⑤

Journal Entry

Polygons are many-sided shapes or figures. Are there any polygons with more than four sides in your home or yard? Tell about them. Think of a reason that you might want to measure the perimeter of one of these shapes.

(14)

Day 15: All About Area

(5)

1. Journal Entry

Think of objects in your room or home that cover a space on the floor. Sometimes it is useful to know how much area certain objects take up. Tell about a situation when you or your family would need to know the area of one of these objects. Perhaps think of arranging furniture, doing home decorating, or remodelling a room.

(2)

2. Write these measurements out in words.

a. $8\ cm^2$ _____

b. $21\ mm^2$ _____

3. Turn to page 118 of your textbook and look at the picture. The picture shows figures that have been made with yarn on a geoboard (a board that looks like a grid of dots).

a. What is the **area** of each figure? (3)

- Figure 1 = _____ square units
- Figure 2 = _____ square units
- Figure 3 = _____ square units

b. How do you calculate the area of each figure? (2)

_____

_____

_____

4. Draw two different figures that have an area of 12 cm^2. (2)

35

Day 16: Learning More About Area

6

1. Turn to page 125 in your textbook. Complete questions 1, 2, and 4 of On Your Own. Write your answers in the spaces provided below. Include the correct units with the answers.

1. a. Length of the dog pen = _____

b. Area = _____

c. _____

2. a. Perimeter = _____ **b.** Area = _____

4. _____

_____

(3) **2.** Name **three** objects in your home whose areas measure about 1 m^2.

- _____
- _____
- _____

(4) **3.** Which would be the best unit to use, **cm^2** or **m^2**, when measuring the areas of these objects? Write the best unit on the space beside the object.

a. a floppy disk _____ **b.** a notebook _____

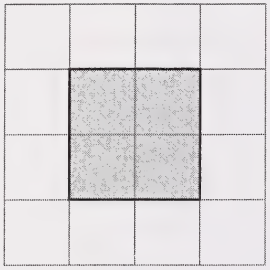
c. a garage roof _____ **d.** a soccer field _____

(2) **4.** Each square on this grid is 1 cm wide and 1 cm high. Calculate the area of the space inside the rectangle.

Area: _____

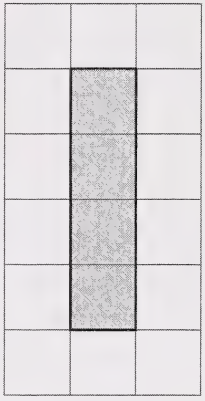
(4) **5.** What is the area of each of the following shapes?

a.



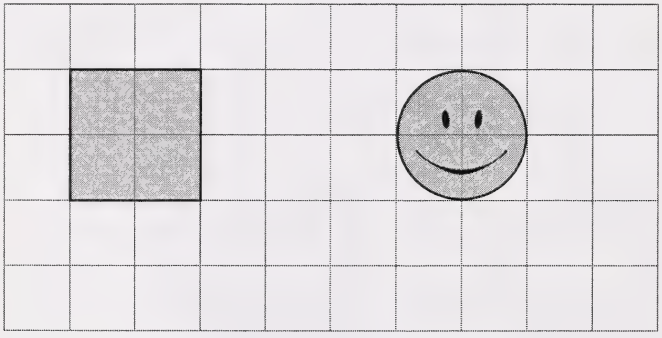
Area: _____

b.



Area: _____

(2) **6.** Which figure has the bigger area, the square or the happy face?



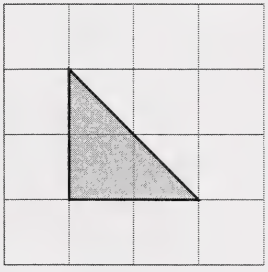
The _____ has the bigger area.

(4) **7.** What is the area of each shape in the outline?

a.

Area: _____

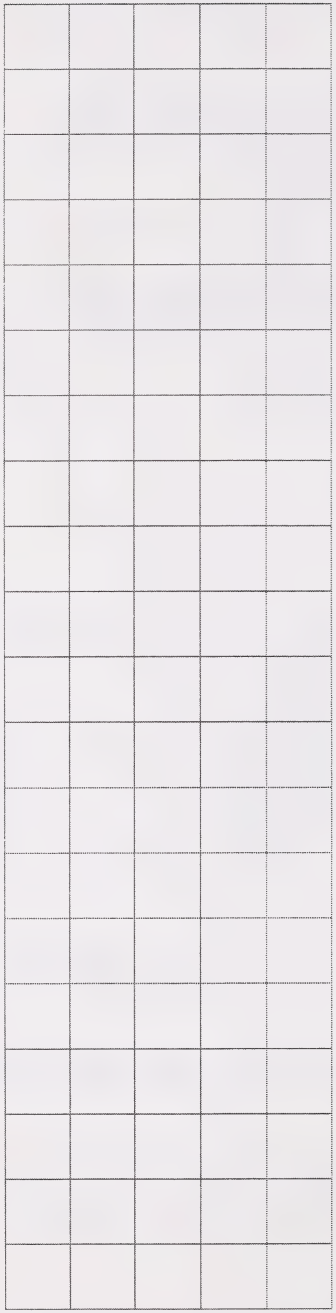
b.



Area: _____

(4) **8.** Use a ruler to draw the following figures on the grid on the next page.

- Figure A is a rectangle that has an area of 20 cm^2.
- Figure B has an area of 20 cm^2. (This figure does not have to be a rectangle, but it must have at least four straight sides.)



(1) **9.** A quick way to find the area of a square or rectangle is _____

_____

_____

10.

Journal Entry

(5) When is it useful to know the area of a room? Think of two examples when you would need to know the area of any parts of a room in your home. Describe them.

_____

_____

_____

_____

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Day 17: Putting It All Together (II)

Part 1: Reviewing the Concepts

(40)

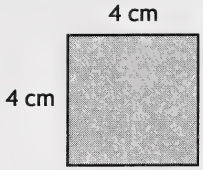
Use what you know about measurement to complete the following questions. Look back in the Student Module Booklet if you need to review any of the concepts you have learned. You are to complete **all** of the questions in Part 1.

(2) **1. a.** Describe the difference between **perimeter** and **area**.

(4) **b.** Draw a figure and calculate both the perimeter and the area of it.

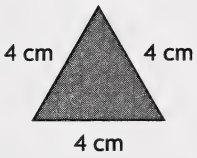
(6) **2.** Calculate the perimeter of each of these figures.

a.



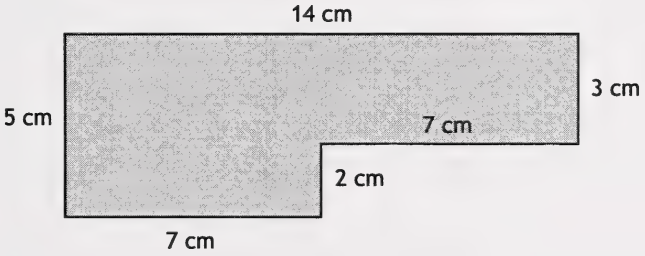
Perimeter: _____

b.



Perimeter: _____

c.

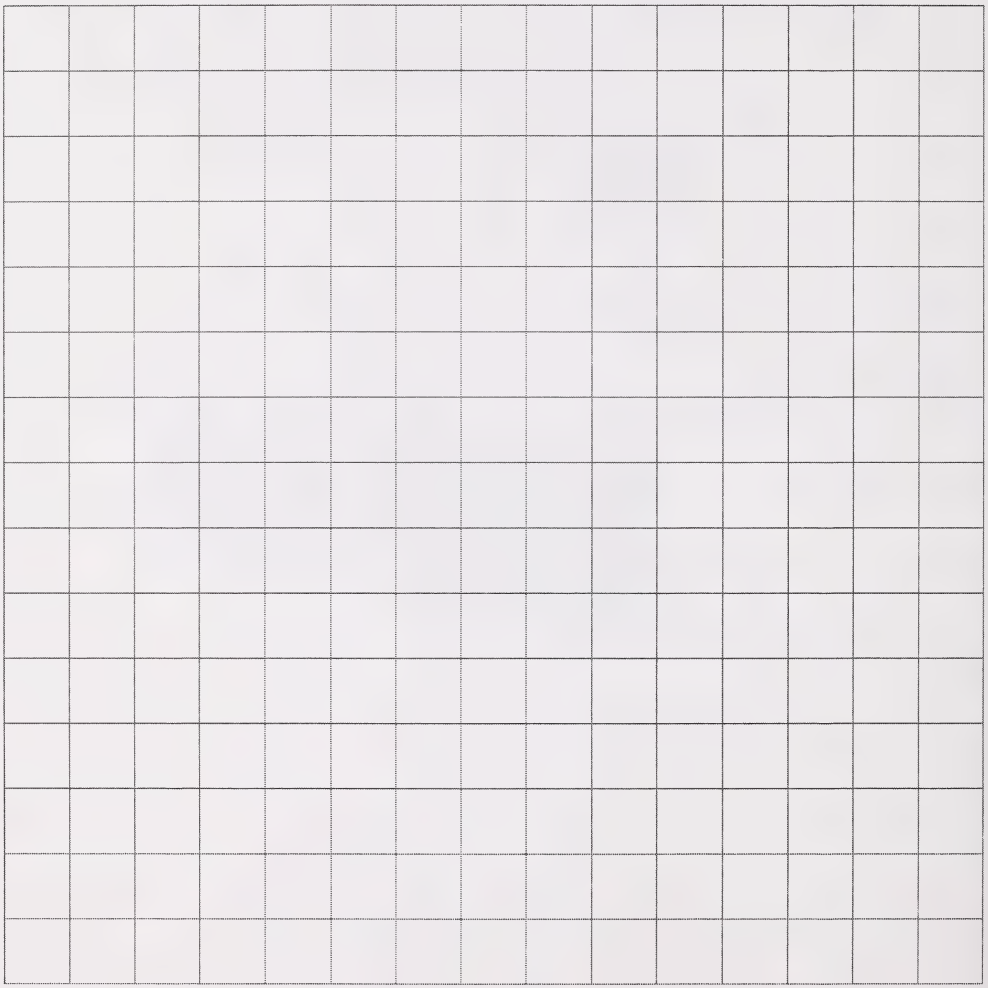


Perimeter: _____

(6) **3.** Use the centimetre grid provided to draw these figures:

- Figure A: a square with a perimeter of 16 cm
- Figure B: a rectangle with a perimeter of 20 cm
- Figure C: a many-sided figure with a perimeter of 24 cm

Remember to label each figure.



(5) **4.** Write these units in order from largest to smallest.

square metre (m^2)	square millimetre (mm^2)	square decimetre (dm^2)
square centimetre (cm^2)	square kilometre (km^2)	

Largest: _____

_____

_____

_____

Smallest: _____

5. Joe and Mo were arguing about who had the biggest feet. Jo said Mo's feet were bigger because they were longer. Mo said, "You have bigger feet than me because yours are so much wider than mine!"

(2) **a.** What other way of measuring their feet could they have used to settle the argument?

_____

_____

(1) **b.** What unit of measurement would they probably use? _____

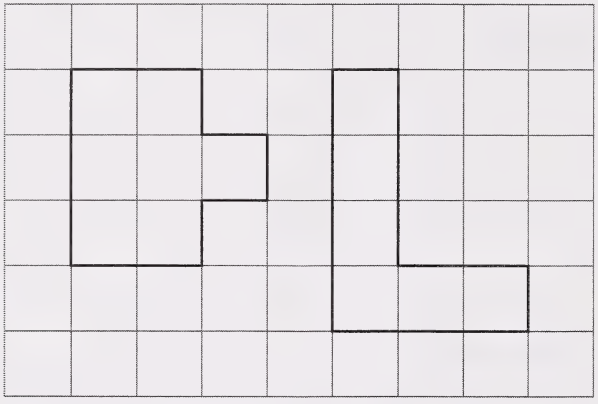
(1) **6. a.** What unit would you use to measure the area of a tabletop?

_____

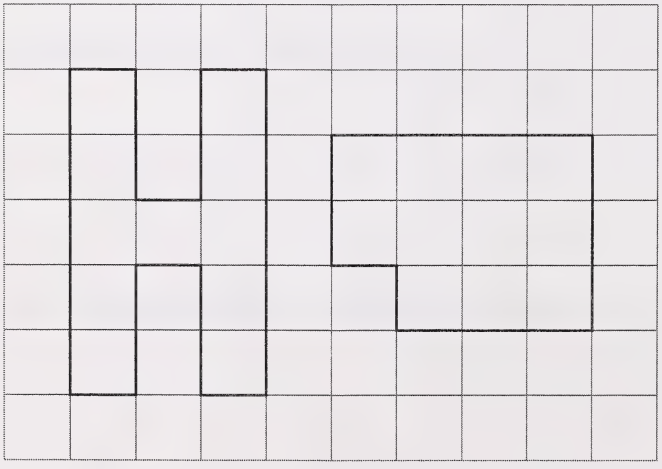
(1) **b.** What unit would you use to measure the area of a garden?

_____

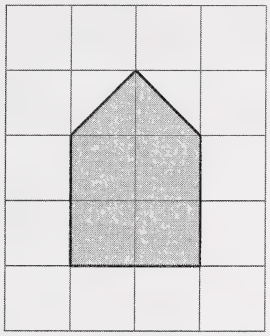
(2) **7. a.** Colour these shapes the same colour if they have the same area. Colour them different colours if they do **not** have the same area.



(2) **b.** Colour these shapes the same colour if they have the same area. Colour them different colours if they do **not** have the same area.



(2) **c.** Calculate the area of this shape.

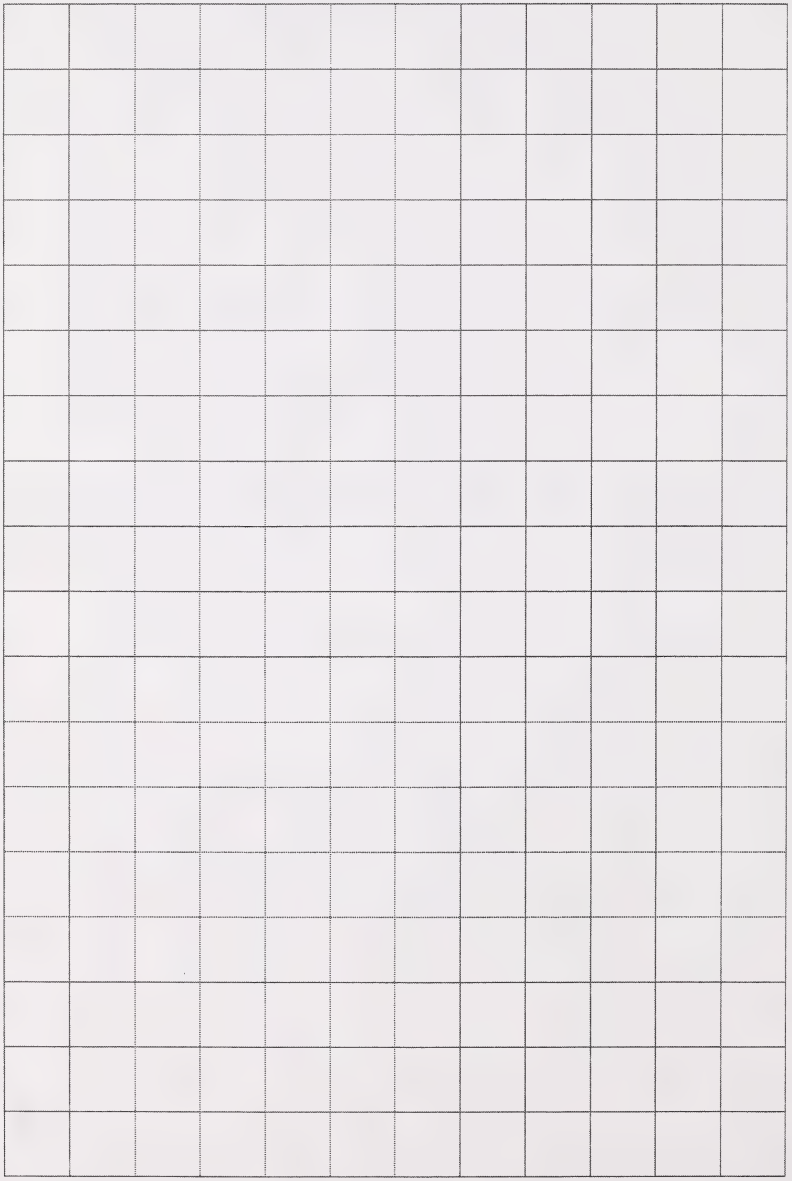


Area _____ cm^2

(6) **8.** Use the grid below to draw the following shapes:

- Figure A: a square with an area of 16 cm^2
- Figure B: a rectangle with two sides of 4 cm and an area of 20 cm^2
- Figure C: a polygon with an area of 18 cm^2

Remember to label each figure.



10

Part 2: Challenge Activities

Choose **either** Activity A **or** Activity B. You may do both if you wish.

Activity A: Carpet Design

10

Your job in Activity A is to plan, draw, and colour a pattern for the carpet that is being installed at Jenna and Richelle's house.

You will use grid paper to make your design. You will also need a ruler and coloured crayons to complete this activity.

The carpet you design must be **20 m long** and **15 m wide**. The design or pattern should repeat several times on the carpet.

Your pattern must include the following:

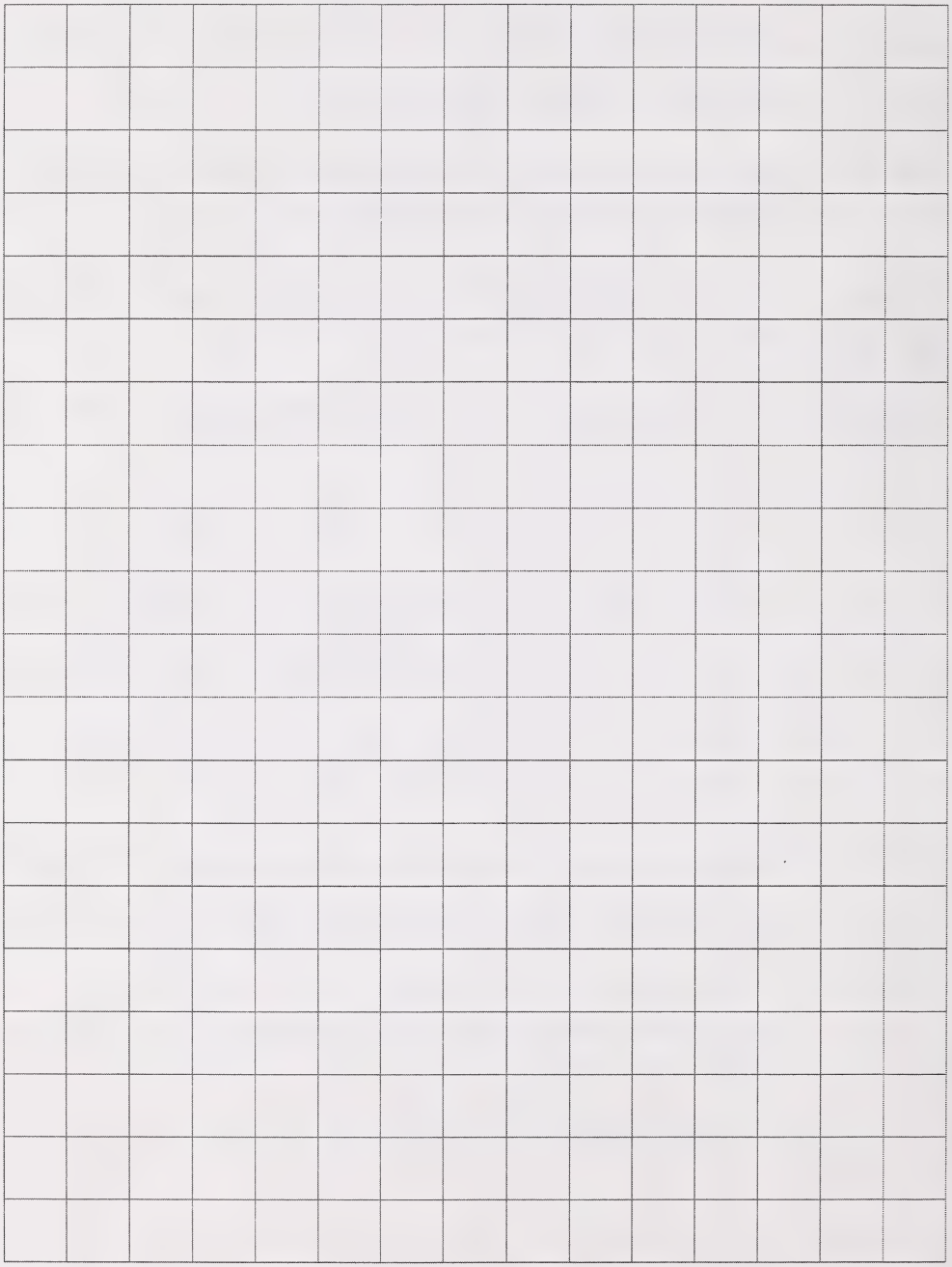
- ❑ six or more blue squares that each have an area of 4 m^2
- ❑ four or more red rectangles that measure 3 m by 6 m
- ❑ two or more identical green rectangles whose perimeters measure 10 m
- ❑ no circles or ovals
- ❑ several coloured shapes that have straight sides (polygons)
- ❑ no areas that are left uncoloured

Draw the outline of the carpet on the grid provided. Each square on the grid represents 1 m^2. Outline the perimeter of the entire carpet area with a black crayon.

Use a ruler to draw all the shapes and lines and choose attractive colours to colour your carpet.

Make sure the pattern repeats in some way over the carpet.

Carpet Design



(10) Activity B: The Carrot Caper

Turn to pages 278 and 279 in your textbook. Look at the pictures carefully and read the instructions.

You will need a carrot (or another vegetable), a ruler, and a flexible tape measure or string.

Your job is to design a poster that describes your carrot so well that someone could pick your carrot out of a group of other carrots. You must include the **exact** length of your carrot, the width at the top, the width at the bottom, and the circumference. Also give an **estimate** of the area of your carrot. Be sure to describe any special marks, colours, textures, or other characteristics your carrot may have.

[1]

Make sure you do the following things on your poster:

- Print neatly.
- Give a full description of your carrot.
- List all of the exact measurements of your carrot.
- Draw and colour a picture of your carrot.

Make sure you write your name at the bottom of your poster.

Design your poster on the blank page provided.

[1] ©2000–2001 www.arttoday.com

Day 18: Assessing What You Know (II)

Home Instructor's Assessment Page for Day 18

Directions to the Home Instructor

Remove this sheet from the Assignment Booklet. Use the Checklist and Comments sections to help evaluate the student's work. When the Day 18 activities have been completed, firmly attach this sheet to Assignment Booklet 7B.

Student's Name _____

Home Instructor _____ Date _____

Indicate in the Checklist and Comments sections what you observe and hear as the student works through the assessment task. Encourage the student to "think out loud" as he or she works. As you observe, you may wish to use questions or prompts like the following to help in determining the student's level of understanding:

- Can you measure that figure in any other way?
- What's the difference between area and perimeter?
- Is there a faster way to find the area of a square or rectangle?
- How do you know which unit to use? Where else would you use that unit?
- Why did you estimate that way? Is another answer possible? Give me an example.
- What steps are you following to do the calculation?

Checklist

A. The student chooses suitable units to measure area and perimeter.	☐ Yes	☐ Not yet
B. The student understands how to proceed after reading a problem that involves measurement.	☐ Yes	☐ Not yet
C. The student is able to give a reasonable estimate about the answer to a measurement problem.	☐ Yes	☐ Not yet
D. The student has a clear understanding of the ways to calculate perimeter and area.	☐ Yes	☐ Not yet
E. The student arrives at accurate solutions to measurement problems.	☐ Yes	☐ Not yet
F. The student understands that two different figures may have the same area or perimeter.	☐ Yes	☐ Not yet

Comments

Add any comments you have regarding the student's performance on the assessment task or any other information about the student's learning experiences in this module that you would like to share with the teacher.

_____

_____

_____

_____

_____

_____

_____

(34)

Day 18: Assessing What You Know (II)

Student's Assessment Page for Day 18

Student's Name _____

(24)

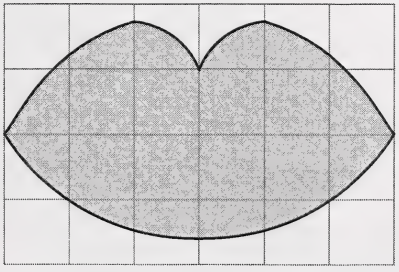
Part 1: Showing What You Can Do

You will need to use a ruler to complete some of your assignment. Show all of your calculations.

(2)

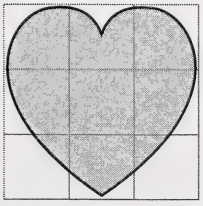
1. Estimate the area of the following figures.

a.



Estimate: _____ cm^2

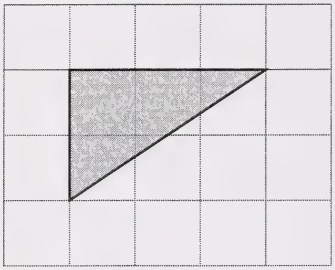
b.



Estimate: _____ cm^2

(6) **2.** Find the perimeter and area of each of the following polygons.

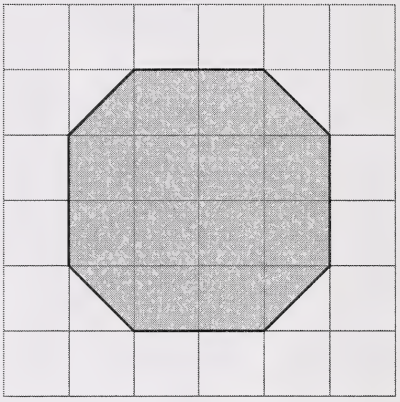
a.



Perimeter: _____

Area: _____

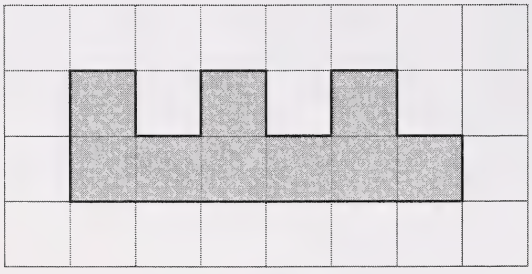
b.



Perimeter: _____

Area: _____

c.



Perimeter: _____

Area: _____

(2) **3.** What unit would you use to measure the area of each object?

a. a page in a book _____

b. a baseball diamond _____

(12) **4.** How many ways can you make a rectangle that has a perimeter of 28 cm?

- Use your ruler.
- Draw six rectangles with a perimeter of 28 cm. Use the grid paper provided on the next page.
- Label the rectangles A, B, C, D, E, and F.
- Write the length and width of each rectangle in the chart.
- Calculate the area of each rectangle and write it in the chart.

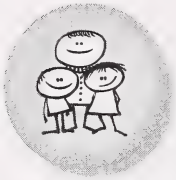
	Length	Width	Area
Rectangle A			
Rectangle B			
Rectangle C			
Rectangle D			
Rectangle E			
Rectangle F			

(2) **5.** Draw a diagram and solve the word problem. Show your work.

Jenna and Richelle's family decided to build a swimming pool for the backyard. They measured the backyard and placed stakes so the workers would know where to dig. They measured a perimeter of 40 m. The width of the pool was 8 m. What was the length of the pool?

(10)

Part 2: Basic Number Facts



This section is made up of two timed tests. Ask your home instructor to time you as you do each test. Wait for your home instructor to tell you when to begin. **Do not mark these tests. They will be marked by your teacher.**

1. Addition Number Facts
Timed Test: 2 minutes

(5)

7 + 9	8 + 3	8 + 6	6 + 9	5 + 8
7+7=	4+8=	5+7=	9+5=	9+7=
9 + 9	6 + 5	6 + 8	7 + 4	6 + 6
8+4=	5+5=	9+4=	6+7=	7+5=
4 + 6	8 + 8	4 + 7	6 + 3	3 + 9

If you finish before the two minutes are up, check over your answers. Wait for your home instructor to tell you when to begin the next test.

(5) **2.** Subtraction Number Facts
Timed Test: 2 minutes

11 − 9	14 − 5	14 − 7	15 − 6	12 − 8
18 − 9 =	11 − 3 =	13 − 9 =	12 − 7 =	14 − 6 =
14 − 8	12 − 9	15 − 7	11 − 8	13 − 6
16 − 7 =	17 − 9 =	15 − 8 =	16 − 9 =	15 − 9 =
11 − 7	12 − 6	12 − 4	11 − 6	13 − 7

If you finish before the time is up, check over your answers.

Mathematics 4
Assignment Booklet 7B
Module 7

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ASSIGNMENT BOOKLET 7C

Mathematics 4
Module 7: Days 19–28

Home Instructor's and Student's Comments:

STUDENT FILE NUMBER
(if label is missing or incorrect)

Date Submitted:

Apply Module Label Here

Name
Address
Postal Code

Please verify that preprinted label is for correct course and module.

FOR SCHOOL USE ONLY

Assigned Teacher:

Date Assignment Received:

Grading:

Teacher's Comments

Teacher's Signature

Home Instructor: Keep this sheet when it is returned to you as a record of the student's progress.

INSTRUCTIONS FOR SENDING IN THIS DISTANCE LEARNING ASSIGNMENT BOOKLET

When you register for distance learning courses, you are expected to send in Assignment Booklets for corrections regularly. Try to send each Assignment Booklet as soon as you have completed it. Before sending your Assignment Booklet, please check the following:

- Are all the assignments completed? If not, explain why.
- Has your work been reread to be sure the spelling and details are correct?
- Is the record form filled out and the correct module label attached?

MAILING

1. Postage Regulations

Do **not** enclose letters with Assignment Booklets.

Send all letters in a separate envelope.

2. Postage Rates

Take your Assignment Booklet to the post office and have it weighed. Attach enough postage and seal the envelope. Assignment Booklets will travel faster if correct postage is used and if they are in large envelopes that are no more than two centimetres thick.

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1. Assignment Booklets may be faxed. Contact your teacher for the fax number.

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E-MAILING

Assignment Booklets may be e-mailed. Contact your teacher for the e-mail address.

Mathematics 4

Module 7
Measurement

Assignment Booklet 7C

Learning
Technologies
Branch

Alberta
LEARNING

FOR TEACHER'S USE ONLY

Summary

	Total Possible Marks	Your Mark
Day 19	43	
Day 20	25	
Day 21	22	
Day 22	30	
Day 23	16	
Day 24	31	
Day 25	27	
Day 26	24	
Day 27	(1) 68	
	(2) 10	
Day 28	(1) 33	
	(2) 10	
	339	

Teacher's Comments

This document is intended for	
Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
General Public	
Other	

Mathematics 4
Module 7: Measurement
Assignment Booklet 7C
Learning Technologies Branch
ISBN 0-7741-1835-0

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ASSIGNMENT BOOKLET 7C
MATHEMATICS 4 – MODULE 7: MEASUREMENT

Notes to the Home Instructor

Learning Tasks

The nine mathematics modules and the accompanying Assignment Booklets have been developed so that students become involved in a variety of learning tasks that help them develop mathematical skills, learn how to communicate mathematically, and become mathematical problem solvers.

When completing the assignments, students should work carefully and neatly. Students should do the activities in the Assignment Booklets **independently**. This will ensure that the teacher acquires a more accurate picture of the student's ability and understanding.

If the student is having difficulties, he or she should review the appropriate sections in the Student Module Booklet. The home instructor can assist the student by reviewing these sections with the student and encouraging him or her to explain, describe, or demonstrate (using manipulatives, drawings, and so on) his or her understanding of a particular concept or idea.

Assessment and Evaluation

A broad range of assessment tools will be used to gather information for the purpose of evaluating the student's knowledge and understanding of curriculum skills and concepts. It is important that the teacher learns how the student thinks about mathematics as well as what concepts and skills the student has mastered. Assignment Booklet questions, journal entries, performance assessments, observations by the home instructor, and student self-evaluation pages may all be used. As well, the teacher may also use a final test.

In order to give the student and home instructor feedback on the student's current level of achievement throughout the school year, the student's teacher will provide written comments and assign a grade at the end of each module. The mark for each module will be determined primarily by how well the student completes the assignments in the Assignment Booklets. However, other broad-based assessment techniques (journal entries, performance assessments, and so on) may also be used.

43

Day 19: How Much Does It Hold?

5

1. Journal Entry

Think about all the things that you use or see in one day that can hold liquid. Write a short story (four to six sentences) about one small part of your day (for example, having breakfast, taking a shower, working on a hobby, eating lunch). Tell about all the items (glass, jar, tube, carton) you use in that time that measure the capacity of a liquid or other substance.

(2) **2.** The units used to measure capacity are **litres** and **millilitres**. The short way to write these units is _____ and _____.

(5) **3.** Fill in the blanks with the correct answers.

a. 1 L = _____ mL

b. 2 L = _____ mL

c. Litres are often used to measure liquids like _____ and _____.

d. Millilitres are often used to measure _____ amounts of liquid.

(3) **4.** You have been given a 2-L container of ice cream. Your friend has been given three containers with 500 mL of ice cream in each container. Who has more ice cream? Explain.

_____

_____

_____

_____

_____

_____

(8)

5. Beside each container, write **less** if it holds less than 1 L, or **more** if it holds more than 1 L.

a. teacup _____

b. ice-cream pail _____

c. gas tank on a car _____

d. ketchup bottle _____

e. jar of honey _____

f. can of mosquito spray _____

g. soft drink can _____

h. large container of spring water _____

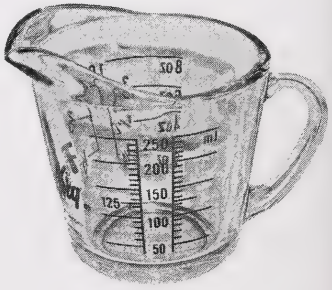
(6)

6. A measuring cup has a capacity of 250 mL.

a. How many of these cups will fill a 1-L pitcher?

_____ cups

This amount is equal to _____ mL.



b. How many of these cups will fill a 1.5-L coffee pot? _____ cups

This amount is equal to _____ mL.

c. How many 250-mL cups of water will fill a 4-L pail?

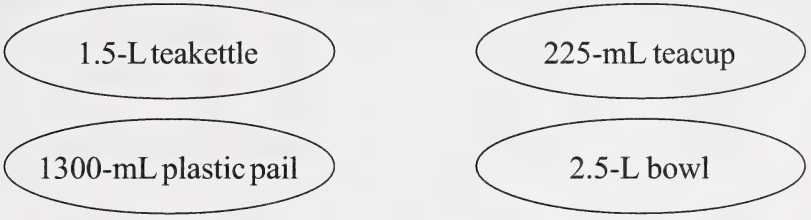
_____ cups

This amount is equal to _____ mL.

(1) **7.** Which of these containers holds about 10 mL of liquid? Circle the answer.

a. a paper cup **b.** the lid of a juice bottle **c.** a salt shaker

(4) **8.** Place these containers in order from smallest capacity to largest capacity.



_____ _____ _____ _____

Smallest Largest

(7) **9.** Beside each item, write **more** if it is more than 1 L, and **less** if it is less than 1 L.

a. a tube of toothpaste _____ 1 L

b. a regular size can of soup _____ 1 L

c. the biggest bottle of soft drink _____ 1 L

d. a can of gasoline _____ 1 L

e. a baby's bottle _____ 1 L

f. a bottle of cough medicine _____ 1 L

g. a bathtub filled to the top _____ 1 L

(2) **10.** How should each of these recipe ingredients be measured? Circle the correct answer for each.

a. 300 mL raisins
- measuring cup (marked in mL)
- measuring spoon (marked in mL)
- 1-L pail

b. 15 mL vanilla
- measuring cup (marked in mL)
- measuring spoon (marked in mL)
- 1-L pail

25

Day 20: Solving Problems About Capacity

1. Journal Entry

5

Suppose you are planning a picnic. You have invited ten friends to your picnic and your mother has bought 3 L of juice. If you were to give each of your guests one glass of juice, would you have enough juice for everyone? Don't forget yourself! Explain how you know. What calculations did you use to solve this problem?

2. Solve these problems about capacity. Show your calculations.

(3) **a.** Lucie bought a can of juice from a vending machine. The label shows that the capacity of the can is 355 mL. How many cans does Lucie need to buy in order to have 1 L of juice?

How many millilitres more than 1 L will she have left over?

_____

(3) **b.** Joe has 355 mL of juice concentrate and 800 mL of water. He wants to mix them to serve to his friends after school, but he is unsure about the size of container to mix them in. He finds three containers: one holds 0.5 L, one holds 1 L, and the third holds 2 L. Which container should he use to mix the juice and water? Explain.

_____

_____

_____

_____

_____

_____

_____

(5)

c. The janitor in a school noticed that a tap in the cafeteria kitchen was dripping constantly. He discovered that in one minute, 20 mL of water dripped from the tap. How many millilitres of water would be lost in one hour?

How many litres of water would be lost in one day?

(2)

3. Calculate the total number of millilitres of liquid for the following recipes.

a. 500 mL water
250 mL orange juice concentrate
2 L ginger ale

Total = _____ mL

b. 750 mL ginger ale
125 mL pineapple juice
1 L water
15 mL lemon juice

Total = _____ mL

(4)

4. Add these measurements quickly in your head by grouping by 100s.

a. 25 mL + 175 mL + 50 mL + 50 mL = _____ mL

b. 250 mL + 125 mL + 50 mL + 75 mL = _____ mL

c. 50 mL + 200 mL + 375 mL + 25 mL + 50 mL = _____ mL

d. 25 mL + 25 mL + 25 mL + 125 mL + 150 mL + 50 mL = _____ mL

5. Turn to page 281 in your textbook. Answer Problem Bank question 3. Show your calculations.

_____

_____

(3)

22

Day 21: Learning About Mass

(2) **1.** Think about the following statement.

"I will measure the **mass** of this box of magazines."

Explain what this statement means.

_____

_____

_____

_____

(2) **2.** Name **two** measuring tools that are used to measure mass.

- _____
- _____

(2) **3.** Choose **two** food packages from your kitchen. Write their names here. Include the mass of each package that is shown on the package label.

- _____
- _____

(3) **4.** Mass is measured in grams and kilograms.

a. How many grams equal 1 kg? _____ g

b. Which has a larger mass: a 100-g package or a 100-kg package?

_____

c. Which unit is larger: a gram or a kilogram?

_____

(2) **5.** Name **two** grocery items that are measured in kilograms.

- _____
- _____

(3) **6.** Which of these objects have a mass of **more** than 1 kg? Circle your answers.

- a toothbrush
- a television set
- a 2-L jug of water
- a videotape
- a box of laundry soap
- an eraser

(3) **7.** Which of these objects have a mass of **less** than 1 kg? Circle your answers.

- a photograph
- a bag of popcorn
- a bag of flour
- a math textbook
- a computer monitor
- a ruler

8. (5)

Journal Entry

Think of a time when you or a family member estimated the mass of something in your home, in your yard, or at a store. Describe what happened and why it was important to know how to estimate mass.

30

Day 22: Comparing Kilograms and Grams

(3) **1.** Name three objects from your home that are usually measured in **grams**.

- _____
- _____
- _____

(3) **2.** Which of these objects should be measured in **grams**? Circle your answers.

- a roll of paper towels
- a chair
- a model car
- a cat
- a comic book
- a computer
- a truck

(3) **3. a.** If 1 kg is equal to 1000 g, how much is 6 kg equal to? _____ g

b. How much is 6.2 kg equal to? _____ g

c. How much is 0.12 kg equal to? _____ g

(2) **4.** A bag of Brand A flour costs $3.50 for 2000 g. A bag of Brand B flour costs $3.50 for 2.2 kg. Which brand is the best buy? Explain your answer.

_____

_____

_____

_____

(2) **5.** Which mass is larger in each of the following pairs? Circle your answers.

a. 2 kg or 2030 g

b. 3000 g or 30 kg

(6) **6.** Change kilograms to grams to help you solve the following problems. Show all your work.

a. How many grams would be left after 446 g had been removed from a 2-kg carton of ice cream?

b. Which basket of fruit has a total mass of 1 kg?

Basket 1: Bananas 150 g	Apples 650 g	Cherries 50 g
Basket 2: Peaches 510 g	Pears 80 g	Strawberries 410 g
Basket 3: Oranges 609 g	Apples 300 g	Plums 90 g

(5)

7. **Journal Entry**

Describe two things that you or a family member has weighed in grams or kilograms. Was it important to measure the mass of these two things exactly or did you estimate? Explain.

(6)

8. Turn to page 277 of your textbook. Complete On Your Own question 1 in the space provided.

Page 277, On Your Own

1. a. Greatest mass: _____

b. Least mass: _____

c. Total mass of 1 kg: _____ and _____

d. Total mass of 1 kg: _____ and _____ and _____

e. _____

_____

_____

f. Lightest to heaviest

Lightest: _____

_____

_____

_____

_____

_____

_____

_____

_____

Heaviest: _____

(16)

Day 23: Learning About Money

(5) **1.** Fill in the blanks with the correct amounts.

a. _____ pennies are equal to one dime.

b. _____ quarters are equal to one dollar.

c. _____ quarters are equal to one ten-dollar bill.

d. _____ dimes are equal to one two-dollar coin.

e. _____ two-dollar coins are equal to one 20-dollar bill.

(2) **2.** List two combinations of different coins that will equal $1.00.

(1) **3.** Which of these combinations of coins will give you $6.00? Circle your answer.

a. $(2\times\$2.00)+(1\times\$1.00)+(3\times 25¢)+(4\times 10¢)$

b. 1 two-dollar coin + 3 one-dollar coins + 10 dimes

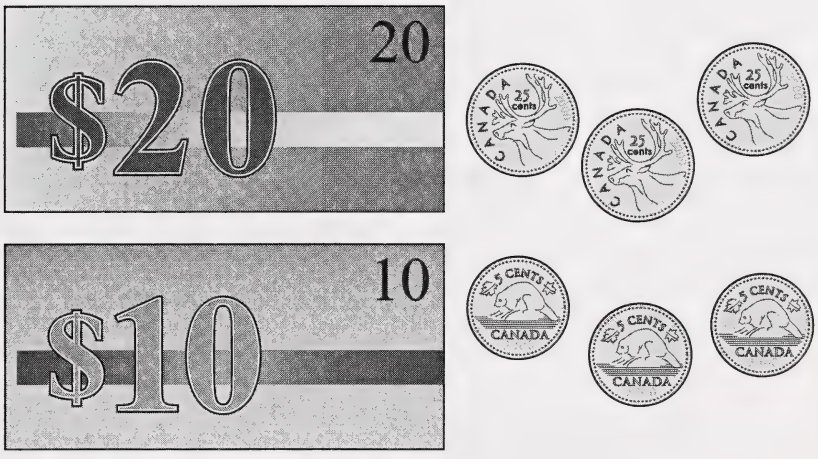
c. 2 two-dollar coins + 3 quarters + 1 dime + 5 pennies

4. Count these collections of money and write the value of each.

(1) **a.**

_____

(1) **b.**



_____

(1) **c.**

_____

5. Solve the following problems. Show your work.

a. Dallas bought a treat at the store for 85¢. All his money was in nickels. How many coins did Dallas give the storekeeper?

(1)

(1) **b.** Jake found a collection of money hidden in a box in the basement. In the collection there are six one-dollar coins, one ten-dollar bill, four quarters, and 20 dimes. How much money is in the box?

(2) **c.** Your friend bought a book for $13.00. She paid for it with a 20-dollar bill. How much change will she get back?

What bill could she receive in her change? _____

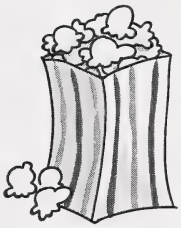
(1) **d.** Your cousin bought four new notebooks for school as well as two new pens. Notebooks cost $2.65 each and pens cost $1.25 each. How much money did your cousin spend in all?

31

Day 24: More About Money

1. Use the four math operations to solve these problems. Show your work. Write your answer in a sentence.

(2) **a.** Gina bought a ticket to a movie and a large popcorn. The movie ticket cost her $5.00 and the popcorn cost her $1.75. How much did she pay in all?



(2) **b.** Lance used a 20-dollar bill to pay for his music lesson. He was given $4.50 in change. How much did the music lesson cost?

(2) **c.** Pat bought three new fish for her aquarium. Each fish cost $3.75. How much did all the fish cost?

(2) **d.** Rani treated his two friends to large soft drinks after the movie. The total cost of the drinks was $5.00. How much did each drink cost?

2. Turn to pages 100 and 101 in your textbook. Look at the snack bar menu and the zoo admission prices. Answer the following questions about the picture in the spaces provided. Show your work.

(2) **a.** Suppose you had $4.00 to spend for lunch. What would you buy?

_____

_____

(1) **b.** How much would your lunch cost?

_____

(1) **c.** How much change would you get?

_____

3. Do On Your Own questions 1 and 2 on page 101 of your textbook.

(2) **1.** Pretend that you have 25 students in your class. How much money would it cost for all the students in your class to get into the zoo?

(2) **2.** How many cones of animal food could you buy with 75¢?

(6)

4. a. Count the change. You may use coins and bills from your collection to do this question. Fill in the blanks as you count.

Start at **$23.75**. Count coins up to the nearest whole dollar first. Then continue counting dollars. Finish at **$40.00**.

$23.75	Give back _____ cents.	Say, "**$24.00**."
→	Give back _____.	Say, "$_____."
	Give back $5.00.	Say, "$_____."
	Give back _____.	Say, "$_____."

(1) **b.** What is the total amount of change given back?

_____

5. Use your cupful of pennies for these questions.

(1) **a.** Would your cup hold more pennies or more dimes?

_____

(2) **b.** Explain your thinking.

_____

_____

(5)

6.

Journal Entry

At the store, you use coins and bills to buy things. Tell about a time when you saw someone buy something without using coins and bills. What did they use instead? Do you think that this is a better way to buy things? Explain.

27

9

Day 25: It's About Time

1. Put these units of time in order from shortest unit to longest unit. The first one is done for you.

millennium	hour	day
century	decade	week
year	minute	second
	month	

a. second (Shortest unit)

b. _____

c. _____

d. _____

e. _____

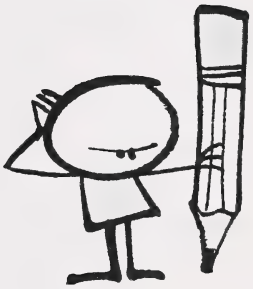
f. _____

g. _____

h. _____

i. _____

j. _____ (Longest unit)



(1) **2. a.** A man is 87 years old. How many more years will it be before he can say that he has lived for a century?

_____

(3) **b.** Will you be alive to see the beginning of the fourth millennium? Explain your thinking.

_____

_____

_____

(3) **c.** An old woman claims that she has lived to see three centuries. Is this possible? Explain your answer.

_____

_____

_____

(1) **d.** The third month of the year is _____.

(1) **e.** The month before December is _____.

(2) **3.** The **first** decade of the twentieth century means the years 1901 to 1910.

The **third** decade of the twentieth century means the years _____ to _____.

(1) **4.** How many decades are there in three centuries? _____

5. Jacob's birthdate is 25/12/90.

(2) **a.** Explain what this means. _____

_____

(2) **b.** Write his birthdate in two other ways.

_____

_____

(2) **6. a.** There are _____ days in one year.

b. There are _____ days in one week.

24

Day 26: Telling Time

2 **1. a.** Where did you find an analogue clock in your home?

_____

b. Where did you find a digital clock in your home?

_____

3 **2. a.** The long hand on the analogue clock shows the _____ as they pass. The short hand shows hours.

b. The letters A.M. in the time 4:00 A.M. tell you that it is 4:00 in the

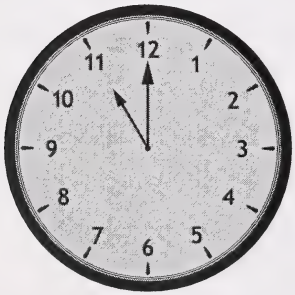
_____.

c. The letters P.M. in the time 9:00 P.M. tell you that it is 9:00 in the

_____.

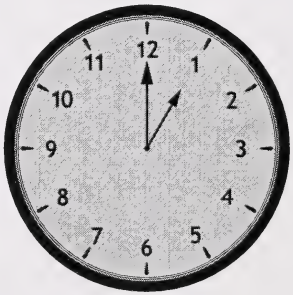
2 **3.** What time is it on these clocks? Write your answers in the box below each clock.

a.



_____:_____

b.



_____:_____

(4) **4.** Show these times on the clocks by drawing the hands in the correct positions. Draw a small picture with each clock to show A.M. or P.M.

a. 6:00 P.M.

b. 10:30 A.M.

(4) **5.** Write A.M. or P.M. to show when these events happen.

a. The moon comes out. _____

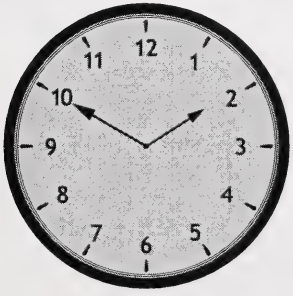
b. A teacher goes to work. _____

c. Your friend catches the bus to school. _____

d. You watch the evening news on TV. _____

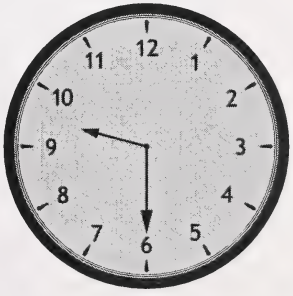
(4) **6.** What time is shown on the following clocks? Write your answers in numbers.

a.



_____:_____

b.

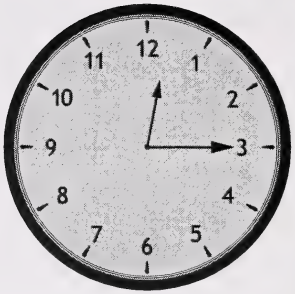


_____:_____

c.

_____:_____

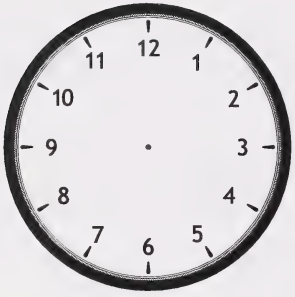
d.



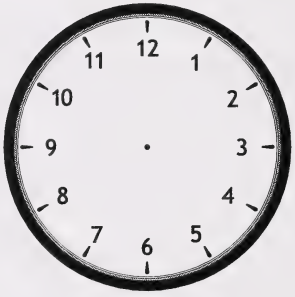
_____:_____

(2) **7.** Draw the hands on these clocks to show the correct time.

a. 5:40



b. 9:15



(3) **8.** Conner and his brother went to a movie. They left their house at 6:00 P.M. It took them 20 minutes to get to the theatre. It took them 10 minutes to buy snacks. Then they waited in their seats for 5 more minutes before the movie began.

At what time did the movie begin? Show your solution.

Day 27: Putting It All Together (III)

Part 1: Reviewing the Concepts

(68)

Use what you know about capacity, mass, money, and time to complete the following questions. Look back in the Student Module Booklet if you need to review any of the concepts you have learned. You are to complete **all** of the questions in Part 1.

(4) **1.** Write the best unit to measure each of these liquids.

a. a glass of lemonade _____

b. milk used to bake a cake _____

c. milk collected from a large dairy _____

d. gasoline _____

(3) **2.** Which of these containers holds **more than 1 L**? Circle your answers.

- a bottle of cough medicine
- a cup of hot chocolate
- a tank of gasoline
- a can of pop
- a rain barrel
- a jar of jam
- a picnic cooler

(4) **3.** Fill in the blanks.

a. 1 L = _____ mL

b. 3 L = _____ mL

c. 3.5 L = _____ mL

d. 8.6 L = _____ mL

(1) **4.** A measuring cup has a capacity of 250 mL. How many measuring cups of water would it take to fill a 4-L pail?

_____

(4) **5.** Write these containers in order from smallest capacity to largest capacity.

- 1.3-L watering can
- 1400-mL plastic pail
- 140-mL cup
- 3.5-L bucket

Smallest: _____

_____

_____

Largest: _____

6. Todd mixed 450 mL of orange juice, 300 mL of pineapple juice, and 1 L of ginger ale for a punch.

(1) **a.** How many millilitres of punch did he make?

(1) **b.** Would a 2-L pitcher hold this amount of punch? _____

(2) **7.** Add these liquid measurements in your head. Group by 100s to add quickly.

a. 25 mL + 75 mL + 100 mL = _____ mL

b. 150 mL + 50 mL + 25 mL + 75 mL = _____ mL

(2) **8.** Name two items in a store that have mass.

- _____
- _____

(3) **9.** Fill in the blanks.

a. 1 kg = _____ g

b. 4 kg = _____ g

c. 4.5 kg = _____ g

(4) **10.** Which of these objects have a mass **less than 1 kg**? Circle your answers.

- a CD
- a sofa
- a plate
- a motorcycle
- a greeting card
- a cup

(3) **11.** In each pair, which item has less mass? Circle your answers.

a. a pail of water or a pail of tissue paper

b. a 2-kg box of paper or a 2400-g box of paper

c. a 3.5-kg cat or a 3400-g cat

(2) **12.** Solve these problems. Show your work.

a. How many grams would be left over if 475 g are taken from a bag weighing 1 kg?

_____

_____

(2) **b.** Apples at Store A cost $1.50 for 1 kg. Apples at Store B cost $1.50 for 950 g.

Which is the better deal? Explain your thinking.

_____

_____

_____

_____

(2) **13.** List two combinations of coins that will equal $1.50.

(1) **14.** Which of the following combinations of coins and bills will give you $12.00? Circle the answer.

a. 1 five-dollar bill + 3 two-dollar coins + 3 one-dollar coins + 3 quarters

b. 1 ten-dollar bill + 1 one-dollar coin + 2 quarters + 5 dimes

15. Mike went to the sports store with $50.00 in his pocket. His purchases came to $38.95.

(1) **a.** How much change did he get?

(1) **b.** What coins could he get in change?

16. Leslie bought a 2-kg bag of apples at the store. Apples cost $1.50 for 1 kg.

(1) **a.** How much did she pay for the apples? _____

(1) **b.** She paid for the apples with a $5.00 bill. How much change did she get back? _____

(6) **17.** Answer the following questions about time.

a. A century is equal to _____ years.

b. A millennium is equal to _____ years.

c. There are _____ minutes in one hour.

d. There are _____ hours in one day.

e. _____ is the fourth month of the year.

f. A decade is equal to _____ years.

(2) **18. a.** A man celebrated his 65th birthday in 1995. In what year was he born?

_____

b. Auntie Rosa said that she is five decades old. How many years old is she?

_____

(2) **19.** Alphonse was born on July 24 in the year 1989. Write his birthdate in two different ways.

- _____
- _____

(3) **20.** What is the difference between an analogue clock and a digital clock?

_____

_____

_____

_____

_____

_____

(3) **21.** Write **A.M.** or **P.M.** beside each event to show whether it happens in the morning, afternoon, or evening.

a. eating a snack before bed _____

b. watching a sunrise _____

c. going to a movie at the theatre _____

(2) **22.** What time is shown on these clocks? Write your answers in numbers.

a.

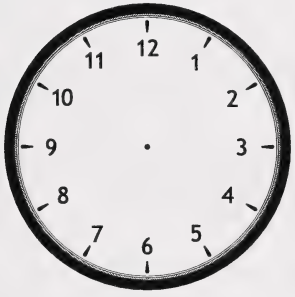
_____ : _____

b.

_____ : _____

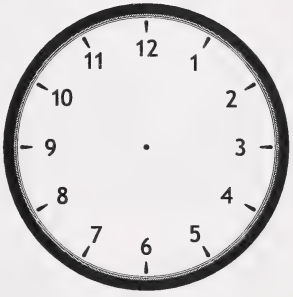
(4) **23.** Draw the hands on each clock to show the correct time. Draw a small picture or symbol to show A.M. or P.M.

a.



3:25 P.M.

b.



8:50 A.M.

(3) **24.** Solve this problem. Draw a picture of a clock to help you.

Darci could not remember what time it was when he left his house to come to work. Darci arrived at work at 4:15 P.M. Before he got to work, he spent 30 minutes travelling in the car. Then he stopped for 5 minutes to buy a snack.

What time did he leave his house to go to work?

Part 2: Challenge Activities

Choose **either** Activity A **or** Activity B. You may do both if you wish.

Activity A: Shopping Trip

10

You are going on a shopping trip without even leaving your home!

For this activity, you will need to find pictures from **one or more** of the following items:

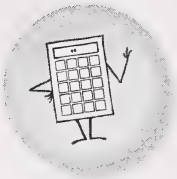
- a weekly advertising flyer from a grocery store or drugstore that shows some of the things that are on sale in the store
- a catalogue, like the Sears catalogue, that shows a variety of household items
- the classified ads section of a local newspaper

It does not matter if the flyers, newspapers, or catalogues are new or old. They just need to have pictures of items with their prices clearly shown.

Pretend you have $50.00 to spend. Search through the flyers, catalogues, or newspapers to find some items that you would like to buy. Record your choices and their price in the chart on the next page.

There are some rules that you must follow:

- Your total can't be more than $50.00.
- Only pick items that you might actually use.
- You can pick more than one of the same item. If you pick more than one of an item, list it again on the list.



- You may use your calculator.
- Find the total cost of all the items you choose.
- Find how much change you would get from $50.00.

Item	Price Per Item

Total Cost of All Items:

Change Received:

10

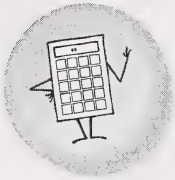
Activity B: Weigh-In

Find at least four friends or family members to help you with this activity. You will also need to use a bathroom scale that is marked in kilograms.

Use the chart provided to list each person in your group. Include yourself in the list. Record the mass of each person in your group in **kilograms**.

If you don't have a scale that weighs in kilograms, do one of these:

- Have each person tell you his or her weight in kilograms.
- Estimate the mass of each person using your weight to compare. For example, if you know that you weigh 35 kg, you may estimate that your father weighs twice as much, or 70 kg.



Fill in the chart and answer the questions that follow. You may use your calculator to help you.

Name of Person	Mass in Kilograms

Total Mass: ____

1. What is the total mass of all the people you weighed? _____ kg

2. Would your whole group of people be able to use an elevator that is not allowed to carry more than 500 kg? _____

3. An elephant has a mass of 3000 kg. How much heavier is an elephant than your group of people?

   _____

   _____

4. What is the difference in mass between the oldest person in your group and the youngest person in your group?

Day 28: Assessing What You Know (III)

Home Instructor's Assessment Page for Day 28

Student's Name _____

Home Instructor _____ Date _____

Directions to the Home Instructor

Remove this sheet from the Assignment Booklet. Use the Checklist and Comments sections to help evaluate the student's work. When the Day 28 activities have been completed, firmly attach this sheet to Assignment Booklet 7C.

Indicate in the Checklist and Comments sections what you observe and hear as the student works through the assessment task. Encourage the student to "think out loud" as he or she works. As you observe, you may wish to use questions or prompts like the following to help in determining the student's level of understanding.

- Can you measure the capacity or mass another way?
- What's the difference between mass and capacity, a century and a decade, a century and a millennium?
- How do you know that is the right time?
- Why did you draw the hands on the clock that way?
- Why did you count the coins that way?
- How do you know which unit to use? Where else would you use that unit?
- Why did you estimate that way? Is another answer possible? Give me an example.
- What steps are you following to do the calculation?

Checklist

A. The student is able to show how to measure litres, millilitres, kilograms, and grams. ☐ Yes ☐ Not yet

B. The student chooses suitable units to measure different objects. ☐ Yes ☐ Not yet

C. The student understands how to proceed after reading a problem that involves measurement, money, or time. ☐ Yes ☐ Not yet

D. The student is able to give a reasonable guess about the answer to a measurement problem. ☐ Yes ☐ Not yet

E. The student has a good understanding of how to change large units to small units, and small units to large units. ☐ Yes ☐ Not yet

F. The student understands the terms used to describe different periods of time. ☐ Yes ☐ Not yet

G. The student is able to tell time to 5 minutes. ☐ Yes ☐ Not yet

H. The student understands how to count change. ☐ Yes ☐ Not yet

Comments

Add any comments you have regarding the student's performance on the assessment task or any other information about the student's learning experiences in this module that you would like to share with the teacher.

Day 28: Assessing What You Know (III)

Student's Assessment Page for Day 28

Student's Name _____

33

4

Part 1: Showing What You Can Do

Answer the following questions. You may use any of the measuring tools or manipulatives you used in Section 3 of Module 7.

1. How would you measure the **capacity** of each of these containers? Tell the **units** you would use. Tell the **tools** you would use to measure the capacity.

a. a bathtub

_____

_____

_____

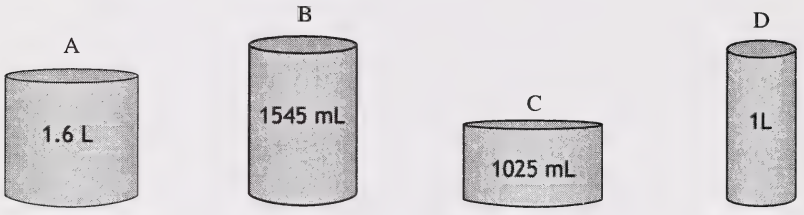
b. a cereal bowl

_____

_____

_____

(4) **2.** Put these containers in order from smallest capacity to largest capacity. Write the letters of the containers on the lines.



_____ _____ _____ _____

Smallest Largest

(4) **3.** How would you measure the **mass** of these objects? Tell the **units** you would use. Tell the **tools** you would use to measure the mass.

a. a bag of oranges

_____

_____

_____

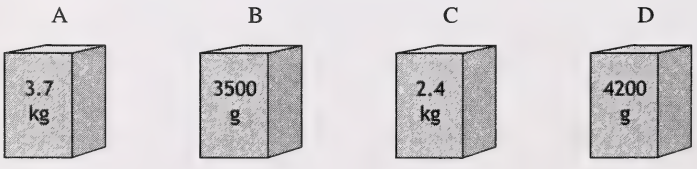
b. one orange

_____

_____

_____

(4) **4.** Put these objects in order from largest mass to smallest mass. Write the letters of the objects on the lines.



_____ _____ _____ _____

Largest

(5) **5.** Kali wanted to buy a bouquet of flowers for her grandmother. The flowers cost $17.50. Kali had the following coins and bills in her purse:

- 3 five-dollar bills
- 2 two-dollar coins
- 1 one-dollar coin
- 1 quarter
- 2 dimes

a. Which bills and coins will Kali use to pay for the flowers?

_____

_____

b. How much change will she get?

_____

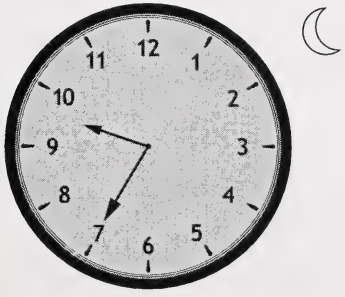
c. What coins will she get back in change?

_____

_____

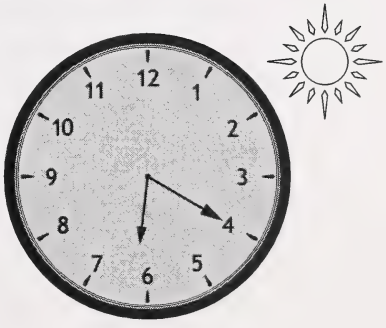
(4) **6.** What time is it? Write A.M. or P.M. after the time.

a.



_____:_____

b.



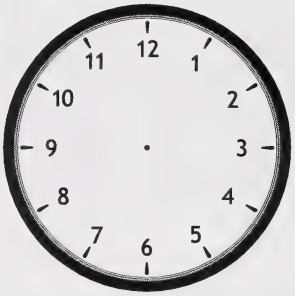
_____:_____

(4) **7.** Draw the hands on the clocks to show these times. Draw symbols or pictures to show A.M. or P.M.

a.

11:25 P.M.

b.



2:10 A.M.

(4) **8.** What is wrong with each of these statements? Cross out the word that is not correct. Replace it with the correct word.

a. Grandmother Hanson has lived for seven centuries.

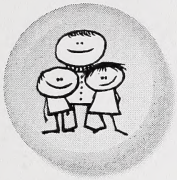
b. My brother was born in the last minute.

c. August is the tenth month of the year.

d. My aunt will have completed her twentieth decade of work with the same company.

(10)

Part 2: Basic Number Facts



This section is made up of two timed tests. Ask your home instructor to time you as you do each test. Wait for your home instructor to tell you when to begin. **Do not mark these tests. They will be marked by your teacher.**

1. Division Number Facts
Timed Test: 2 minutes

(5)

$42 \div 6 =$	$48 \div 6 =$	$56 \div 7 =$	$25 \div 5 =$	$24 \div 3 =$
$8\overline{)64}$	$7\overline{)35}$	$9\overline{)27}$	$6\overline{)54}$	$8\overline{)40}$
$36 \div 6 =$	$24 \div 8 =$	$20 \div 4 =$	$32 \div 8 =$	$18 \div 9 =$
$3\overline{)21}$	$7\overline{)28}$	$9\overline{)36}$	$9\overline{)63}$	$6\overline{)24}$
$72 \div 9 =$	$45 \div 5 =$	$30 \div 6 =$	$54 \div 9 =$	$49 \div 7 =$

If you finish before the two minutes are up, check your answers. Wait for your home instructor to tell you when to begin the next test.

(5) **2. Multiplication Number Facts**
Timed Test: 2 minutes

$4 \times 9 =$	$3 \times 5 =$	$4 \times 8 =$	$3 \times 7 =$	$9 \times 8 =$
$\begin{array}{r} 9 \\ \times\ 5 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times\ 3 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times\ 8 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times\ 7 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times\ 8 \\ \hline \end{array}$
$5 \times 9 =$	$6 \times 4 =$	$7 \times 7 =$	$9 \times 7 =$	$6 \times 8 =$
$\begin{array}{r} 7 \\ \times\ 9 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times\ 4 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times\ 6 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times\ 7 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times\ 7 \\ \hline \end{array}$
$5 \times 5 =$	$5 \times 8 =$	$6 \times 9 =$	$3 \times 6 =$	$4 \times 6 =$

If you finish before the time is up, check your answers.

Part 3: Thinking About What You Know

Here is a chance for you to assess your own knowledge and abilities in mathematics. Take a few minutes before you begin writing to look back through your Student Module Booklet. On what days did you learn new things that you didn't know before? Was there anything you found difficult or hard to understand? What things did you enjoy? What things would you like to know more about?

Now, using complete sentences, finish the following paragraph starters. If necessary, talk over your ideas with your home instructor before you begin writing.

1. I think Section 3: Looking at Capacity, Mass, Money, and Time is mainly about _____

_____

_____

_____

_____

2. Some new things I learned in Section 3 of this module are _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

3. One thing I liked about Section 3 is _____

4. Something I don't really understand is _____

5. Something I would like to learn more about is _____

6. Something else I'd like to say is _____

LRDC
Mathematics 4
Assignment Booklet 7C
Module 7
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